

America's Historical Imprints

Date of Publication: 1799

Early American Imprints, Series 1, no. 35399 (filmed)

Title: Address of the committee of the Delaware and Schuylkill Canal Company, to the committees of the Senate and House of Representatives, on the memorial of said company.

Author: Delaware and Schuylkill Canal Company.

Subjects:

Latrobe, Benjamin Henry, 1764-1820. Remarks on the address of the committee of the Delaware and Schuylkill Canal Company. Canals--Pennsylvania.

Publication Information:

[Philadelphia] Printed by John Ormrod, No. 41, Chesnut-Street, Philadelphia., [1799]

Physical Description:

32, 7, [1] p.

Additional Index Points:

Pennsylvania. General Assembly.

Printers, Publishers, Booksellers:

Ormrod, John, printer.

Place(s) of Publication:

United States--Pennsylvania--Philadelphia.

Language:

English

Notes:

Dated on p. 28: January 19th, 1799.

"Errata."--p. 32.

"Remarks on a second publication of B. Henry Latrobe, engineer ..."--7 p., 2nd count. Dated January 26th, 1799.

References:

Evans 35399

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Record Number: 0F30192E2E67C2C0

Record Number: w004204

Article Bookmark (OpenURL Compliant): Early American Imprints, Series 1, no. 35399 (filmed)

http://docs.newsbank.com/openurl?ctx_ver=z39.88-2004&rft_id=info:sid/iw.newsbank.com:EAIX&rft_val_format=info:ofi/fmt:kev:mtx:ctx&rft_dat=0F30192E2E67C2C0&svc_dat=Evans:eaidoc&req_dat=1095A8734553BB87

35399

Delaware and Schuylkill Canal Navigation.

Address of the Committee of the

Philadelphia, Ormrod, [1799]. 32, 7 pp.

MHS copy.

A D D R E S S

OF THE

C O M M I T T E E

OF THE

DELAWARE AND SCHUYLKILL CANAL COMPANY,

TO THE COMMITTEES OF THE

SENATE AND HOUSE OF REPRESENTATIVES,

ON THE

MEMORIAL OF SAID COMPANY.

PRINTED BY

JOHN ORMROD, No. 41, CHESNUT-STREET,

Philadelphia.

*To the COMMITTEES of the LEGISLATURE to whom was
referred the MEMORIAL of the INCORPORATED COM-
PANY of the DELAWARE and SCHUYLKILL CANAL
NAVIGATION,*

GENTLEMEN,

THE Committee of the Delaware and Schuylkill Canal Company, appointed to attend the Legislature, on the Memorial of the President and Managers, presented on the 21st of December last, praying for aid to enable them to perfect the Canal, agreeably to their act of incorporation (having been favored by the Committee of the Senate, with a copy of some remarks on the said Memorial, delivered to them by a joint committee of the select councils of the city corporation) find themselves *pressed*, in their turn, to submit the following observations on that production of the *Committee* of the City Councils.

The Committee of the Canal Corporation, being informed that the Committee of the Senate, having before them all the remarks of the Committee of the City Councils, (and therefore under the most favourable circumstances to them) had drawn up their *report*, exercising their own judgment, without thinking it necessary to lose time, in waiting for the observations or reply of the Canal Company; we might have been contented, without further remarks, to let the matter rest where it was justly placed (under the wise deliberations of the Legislature) if the Committee of the City Councils could have been contented to rest there also; wishing to avoid every thing that might create jealousies among fellow-citizens, ill-calculated to promote that union, harmony and public

spirit, so necessary to the accomplishment of a great work, for the joint interest, both of the city and country.

But (as some evil genius would have it) the Committee of the City Councils, not content with the discussion of their paper, before the Committee of the Senate, have thought fit to *publish* it, by way of *appeal* to the world; with what views, upon the *whole*, it is not for us to say. Certainly it could not be, as they express it, to prevent or remove any *incorrect impressions*, which may take place," from our *memorial* to the Legislature, "if unnoticed." Much less could it be with the *vain* view of influencing the *Senate* in the discussion of the *report* of their committee. The publication, or *appeal* was not necessary for either of those purposes; as the *original* paper was in the hands of the Committees of both Houses of the Legislature, and had been considered and acted upon by the *Committee of the Senate*: Nevertheless, there is one view in the publication aforesaid, which we can fairly and of right ascribe to the Committee of the City Councils, or at least those of them who approved it; namely, to try whether they might not have a better chance with the *community* at large, than with the *Legislature*, to hold up the *Canal Corporation*, to their fellow-citizens; as a body, "the *obvious tendency*" of whose proceedings, and their *MEMORIAL*, in particular, after having "been attentively considered by them, seems calculated to frustrate any views of the *City Corporation*, for obtaining a supply of water, except through the medium of that company;" who are represented, in another part, as acting from interested motives, separate from the community, and devoid of public spirit.

These harsh charges made by the *city committee*, being now before the tribunal of the public, become a fair subject of examination, to any citizens who will take the trouble; but the *Canal Committee* are specially called to the task, in a *defensive* situation, the *attack* not being on their side. Both committees are but *out parties*, skirmishing, by *attack* and *defence*, in a *point of honour*, where the *interest* belongs to neither exclusively, but to the community at large. These skirmishes, may be con-

ducted with good humour on both sides, as the Canal Committee promise they will be, on theirs, without yielding up the *defence*, so long as the *attack* continues; or till the constituents of both may think proper to call them back to their respective *in-posts*. In the mean time, as the skirmishes will be *bloodless*, at least *not mortal*, they cannot create any ill-humour among the individual members and fellow-citizens of the two corporations; but may yield some information, as well as amusement, both to them and the public, without embarrassing the Legislature in the provision of adequate funds to be *appropriated* and *managed* by such *agency* as they might think best, for the most speedy and effectual attainment of a great and common benefit to the whole Commonwealth.

After this necessary introduction, in which all possible brevity has been studied, we will strive to proceed, with the like brevity, to offer our observations and remarks upon the production of the City Committees, which could not but hurt the feelings of the Canal Company, in a very great degree, considered as the sentiments, and having the sanction, of so respectable a number of their fellow-citizens, as the *two councils* themselves, assembled in their deliberative and corporate capacity. But the publication now appearing, as the *act only*, of their joint committee, the Canal Company feel themselves *less hurt*; although it appears to their committee not *less* necessary, to obviate any misconstruction of their conduct which that publication might produce, so far as concerns the community at large. For this purpose, some documents will be introduced, the originals of which are before the Legislature, but could not come to the knowledge of the public, otherwise than through the Canal Company, or their committee.

1. As to the reflexion, in the introductory paragraph of the *production* in question, "That the memorial of the President, Managers and Company of the Delaware and Schuylkill canal navigation—in its obvious *tendency*, seems calculated to *frustrate* any views of the City Corporation for obtaining a supply of water, except

“ *through the medium of the Canal Company,*” we are entirely at a loss, even to conjecture, on what it is founded, or indeed the reflections scattered through other parts of the production, that they act from interested motives, and not public spirit.

With respect to this last reflection, before we proceed further, and to enable us to meet the *patriotic City Committee*, on equal terms of patriotism, we beg leave to observe—

That the Stockholders of the Canal Company are a *Corporation*, as well as the citizens of Philadelphia— That a great proportion of the Members of the Canal Corporation, are *Members*, or at least *Electors* and *Constituents* of the City Corporation ; and *vice versa*, many Members of the City Corporation, are Stockholders of the Canal Corporation—The interests of both are the same, with regard to the city—That the trust committed to the management of the Canal Corporation, is of primary magnitude, embracing not only the interest of the whole commonwealth, both in country and city, in the most important point of inland navigation, but, in that point also, embracing the *special* interest of the city and its growing suburbs, in respect to local situation, by the introduction of an ample quantity of water, according to the charter of the company, “ to form dry and “ wet docks for the accommodation of vessels near the “ city, and to supply the city itself, and the neighbourhood thereof, with water by means of pipes and other “ conductors, under the public roads, streets and alleys, “ for the use of such persons, as will agree to pay for the “ same, such annual prices as shall be established by the “ President and Managers ; *provided* that the said company shall not be entitled to any greater price for water to supply the city and neighbourhood thereof, than “ will create the annual profit of ten per centum on the “ capital that may and shall be expended for that particular purpose, exclusive of the general expence of the “ Canal.”

That in pursuance of their great trust, the company lost not a moment in the commencement of their work.

They engaged their credit and expended their money (with but a remote view even of common interest,) in order to complete the same, upon principles demonstrably adequate to all the objects of their incorporation; namely for the emolument of their *country* at large, in the important point of *inland navigation*; as well as the city and its *suburbs*, in particular, with respect to water, for domestic purposes—nay they even gave a preference to this latter object (as set forth in their memorial) by the construction of the *canal*, upon a *level* and of *dimensions* sufficient for “introducing water, above the highest parts of the city “ground plot, to the vast amount, if necessary, of *half a million* of cubic feet per hour* ;” comprehending also objects for the benefit of the city, not mentioned or required in the charter of the company, and for which no compensation is directly provided, viz. to have an *abundant overplus of water*, for *flooding* and cleansing the *streets* and subduing the rage of fire, both in city and suburbs; upon which *local* object, considering it of high importance, a sum has been already expended, at least equal to what the *canal*, for the purposes of navigation *alone*, would have cost—”

So far, we think, the company have not acted with an intention to *frustrate* the views of the city, in this respect; but on the contrary, on the most disinterested principles, have zealously endeavoured to forward them, as all our annual memorials and addresses to the Legislature, as well as our negotiations with the *city-councils*, will shew.

* This calculation of, half a *million of cubic feet* of WATER per hour, which by the *completion* of the CANAL, might be brought into the proposed GRAND RESERVOIR, in the neighbourhood of the city, opposite *Broad-street* continued a little to the northward of *Callow-hill* street, was delivered to the committee of the City-Councils, on Dec. 20th 1797, as in their printed *report* appears—The calculation was made on the principle of giving the canal a velocity of one mile per hour.

Mr. WESTON our engineer, arriving from *New-York*, about a month afterwards, was requested without shewing him the other calculation, to make one of his own, upon the same *data*, viz. width of the *bottom* of the canal 20 feet—do. of *top*—30 f. and a half

The governor, in his address to the legislature Dec. 9th 1797, having in view that part of the object of our incorporation which relates to watering the city, and considering the Delaware and Schuylkill canals, as contemplated by law, the *medium*, best calculated for that valuable purpose—express'd himself as follows—“ But
 “ the interposition of the legislature will also be indis-
 “ pensibly necessary, in order to ensure such a supply of
 “ water, through the *medium* of canals, as appears to
 “ have become essential to the *general convenience*, as well
 “ as health of the community*.” Embracing this senti-
 ment of the chief magistrate, the joint committee of
 the Select and Common Councils, who had been appointed on the 2d of November before, in their report to their constituents, say “ That among the various methods

depth 3f. and a half, giving the *area* of the vertical section 88, 375 cub. feet; and leaving him to assume such velocity as in his judgment the canal would bear, he assumed, on *data* and experiments of his own, upon a small canal in England, velocity 14 inches in a second of time, or 70 feet per minute, or 19 miles and 260 yards per day, giving the following result, viz. “ 8,908,200 cubic feet of water every 24 hours; or 54,518,184 ale gallons; half of which, 27,259,092 gallons, supposing 12,000 houses in the city, and each house to receive an equal portion of water, would amount to upwards of 2271 gallons to every house, which shews, says he—*That after the most ample supply for every domestic use, the immense quantity that would remain for other useful purposes.*”

It is needless to add, for those who can make the calculation, that 8,908,200, cub. feet in 24 hours, with a velocity of 19 miles 260 yards; gives 371,175 cub. feet per hour—and that the same section of water, (which section may be increased in depth and velocity if necessary at the head of the canal) with a greater velocity of 24 miles in the same time, will justify the calculation of about 500,000 cub. feet or *half a million* per hour; greater nicety is not necessary, as the quantity of water, (leakage evaporation &c. allowed) is so superabundant.

* The governor, in his address to a former Legislature had recommended to them, an immediate attention and aid, to the Canals, and inland navigation, as a necessary means to place Pennsylvania on a footing with the neighbouring states; who, by superior and more early attention to these points, were likely to engross the whole western trade to the great injury of our agriculture, manufactures and commerce.

“ suggested, for introducing a sufficient quantity of
 “ *wholesome* water into the city, none have appeared to
 “ your Committee so well calculated to *insure* the at-
 “ tainment of this desirable object, as the completion of
 “ the *canal* projected to unite the Delaware and Schuyl-
 “ kill—That impressed with this *belief*, and convinced
 “ that the prosecution of this object would also contribute
 “ to aid the *great and important undertaking* of INLAND
 “ NAVIGATION, your committee *solicited* a conference
 “ with the *managers* of the *Canal company*.”—It is true,
 the *joint Committee* of the City-Councils for the present
 year, have stated that though the above quotation, and
 another taken from a separate part of the *report* of last
 year’s Committee, “ that this Canal forms a capital link
 “ in the great chain of *Inland Navigation* between our
 “ *metropolis*, and the *Ohio* and *western lakes*, are correct as
 “ *to words and sentences*; yet, as quoted in the memorial,
 “ of the Canal Company, *they present a view foreign to*
 “ *the object of the councils*.

What may be the *view* of the *present councils*, though
 not expressed, we shall be able, before we conclude, to
 form at least a very probable conjecture. But certainly
 we can ascribe no other view to the *committee* of the for-
 mer year, than what their words plainly express as quot-
 ed above, and that impressed with the belief of what they
 express’d, *they SOLICITED a conference with the canal*
company.

This *conference* took place at several meetings in the
 Canal office, soon after the governor’s address of Dec. 9th
 1797. No other *view* of the City Committee was suggested,
 but to unite their efforts with those of the Canal Compa-
 ny, in the *completion of the canal*. Had any other *view*,
 separate from this, been held up, the Canal Company
 could have nothing to do with it, unless it tended to the
 sacrifice of their interest and rights—and here the confer-
 ence must have ended—But, in justice to that Committee,
 we must say that nothing but candor and liberality, to the ut-
 most extent of their powers, appeared on their part, as
 well in their *negotiations* with the Canal Committee, as

in their *report* of the same to their constituents ; a printed copy of which was presented to each branch of the legislature, accompanying our memorial.

But the present committee of the *City Councils* have selected some parts of the negotiations, between their former committee and the Canal Company, as subjects of their remarks ; which it is incumbent upon us briefly to notice.

1. That the stockholders of the Canal company had rejected the proposition (made during the conference) to alienate their right to water the City for £50,000 ;— the proposition should have been stated (if the present City-Committee could have deigned to copy the words of their predecessors)” to sell and deliver [to the City] “for £50,000, payable in eight quarterly instalments, “one half the water of the Canal, viz. as much as “will pass out of their proposed *grand reservoir* through “a water way of 12 1-2 feet in width, by 3 1-2 feet “in depth, to be constructed at the expence of the City Corporation, for the purpose of watering the City”—

For rejecting this proposition, no other or better reasonings need be given, than that when laid before the stockholders, and fair calculations made, it appeared that the extraordinary work alone, with a view to watering the City, which the Canal Company were expected to relinquish for £50,000, would cost at least £75,000 ; and consequently be a sacrifice of £25,000 of the stock of the company, besides several years interest—But, far from *rejecting* any reasonable proposal for *alienating half* the waters to the City ; their present Committee might have stated, in their candor, that before they presented their remarks to the Legislature, a proposition was made to them, on the part of the Canal Company, in order to aid their applications to the Legislature, for an *absolute alienation* of *half* the waters of the Canal, at the grand reservoir as first proposed, for the very sum of the estimated cost as above stated ; namely 200,000 dollars, or £75,000, and that *without any mention or requisition of interest*. On this head, namely the watering the City, the present committee further add in another pa-

paragraph, as follows, viz.—“*Besides, the premium of 10 per cent. on the capital expended for watering the city; would not be relinquished &c.*”—Here the present City Committee begin to quote from the report of the former Committee, but suppress the most essential part; to have it believed that the Canal Company wish'd to retain a premium on that share of their capital which they proposed to transfer to the City—The words of the report, when fully quoted, are the following, viz. “*Besides the premium of 10 per cent, which must, according to their act of incorporation, be annually paid upon the money expended, in watering the City, exclusive of the general expences of the canal, would not, in case of the city becoming proprietors to the amount of half the stock, BE RELINQUISHED.*” What a wide difference of construction will the two quotations bear, from the omissions of the present City Committee; especially of the words, *exclusive of the general expences of the canal*, as properly stated by the former Committee? If the city had become proprietors of half the stock, or any other proportion, of the canal; they were *share-holders*, and were to have an equal proportion of the management, as well as of all the emoluments of the navigation, *dry & wet docks*, and *watering the suburbs* also. And by the very terms of such a contract, if the canal company absolutely relinquished half the stock for a valuable consideration, they relinquished half the premium of the 10 p. c. as well as of every other premium of consequent emolument. And the city had it in their power, by means of their part of the general premium, to *extinguish* any tax or burden on their fellow-citizens, which might be deemed hard upon them, especially the *poor*; in which good work, it is not yet to be presumed that the *original stock-holders* would have been backward, or rigidly covetous, after securing a moderate interest on their capital.

The failure of this part of the negotiation cannot, therefore, be ascribed to the *Canal Company*, as the present *City Committee* have taken it upon themselves, in the following words:

“With respect to the proposition of a purchase of

“ half the stock, it appears to us inadmissible ; many
 “ difficulties and objections present themselves, your
 “ committee will only mention the following ; a perfect
 “ harmony among *managers*, having *different interests*.
 “ to *watch over*, could not be expected ; jealousies
 “ would hereafter arise, and the *object of watering the*
 “ *city might be defeated, or procrastinated, a number of*
 “ *years.*”

The idea of wishing the city corporation to appoint *managers*, in proportion to their stock, originated in the example of the State Legislature, in their appointing a proportion of the *Directors of the Bank of Pennsylvania*; a plan, which, from its salutary effects, has done justice to their wisdom, not imagining that jealousies could arise, or different interests clash, among men appointed to *direct and watch over* a common interest. The state directors of the bank, appointed by the legislature, have always, or at least generally, a *private or personal interest* in the stock, separate from that of the state ; and the *mens conscia recti* can never surmise, that *personal interest* will over-rule *public good*, in a *trust* for the community. The appointments are *annual*, and a mind found susceptible of such a *bias*, would scarcely obtain a second election, or opportunity to *procrastinate* the public business for years, nor even for one year, among minds of better mould.

Another *volunteer* remark, not connected with the subject of the memorial (except as an attack upon the charter constitution of the Canal Company) is hazarded by the present City Committee, as a *lesson* to the Legislature, in their future *proceedings*. The remark is curious, and in the following words :

“ It hath been a *favorite theory*, that public advantages are best promoted and obtained, when it is made
 “ the interest of *private persons*, or *associated companies*,
 “ to advance the public good. The *history of companies*,
 “ *incorporated on this basis*, in Pennsylvania, since
 “ 1791, gives the *evidence of experience*, that the *theory*
 “ should be received with some *caution* ; and that it can-
 “ not be *safely* admitted, without some limitation. In

“ the present instance” [clearly referring to the Canal Company as associated on the aforesaid basis] “ it now rests with the Legislature, say they, to pursue that *speculative policy*, with the aid of legislative grants, or to try the effect of promoting the *public good* on the basis of *public spirit*.” They further say, that, in preferring their request for *aids*, &c. the *Select and Common Councils* have been (and therefore it may be presumed will always be) *entirely* governed by a strong desire to promote the health and safety of the city, without views of *personal* or *private* interest, or advantage whatever;” *except*, they might have added, *that the personal safety and private interests of the Councils and Committees of this year, and of all succeeding years, must be intimately involved with their fellow citizens of every degree, in the health, safety and prosperity both of city and country!*

But, alas! in this sad dilemma, between former *speculative* policy, and future *speculative experience*, what can the Legislature do? If, self-condemned, they tread back their steps to the year 1791, to examine the proceedings of the Delaware and Schuylkill Canal Company (on the footing of *quo warranto, non-user, &c.*) in order to substitute the City Corporation, at the request of their committee, in the place of the Canal Corporation, as a body of more public spirit; another set of men may make the same request, on the footing of disinterested spirit, in respect to the *Lancaster Turnpike Company*, the *Schuylkill and Susquehannah Canal Company*, and the *Conewago canal company*; none of which companies have received a single cent profit or interest on their capital or labour, nor are likely to receive any very soon, except the Lancaster Turnpike Company who (as we are well informed) have never in any year received, on an average, more than three and a half per cent on their capital; and though their public spirit cannot be called in question, we believe they would not be averse to yield their place to any body of men, who, on the basis of public spirit, will come forward to indemnify them for their honorable past expenditures and labors.

But what is this public spirit, and what those disinterested exertions, with which this City Committee stun the public ear, in a perpetual *peal*? We honour the public spirit of Pennsylvania, the disinterested benevolence, and humane policy of its citizens, taken in their proper sense. They are honored as far as their history is known, throughout the world, and have been found adequate to many laudable foundations, and in the city of Philadelphia in particular. But what could *public spirit* alone, however disinterested, have accomplished in the great works of general improvement throughout the state, to which the interference of legislative aid was necessarily called? Could public spirit alone, without legislative aid, and even interesting individual capitalists, to call forth their money, with a view to some adequate *premium*, have open *roads* through rugged and pathless mountains, dreary swamps and wildernesses? Could it have dug *canals*, opened our navigable waters, encouraged our agriculture and manufactures, our commerce, arts and sciences, humane institutions of hospitals, &c.? In a word, could the public spirit of the city itself, meet the expence of a permanent bridge over Scuykill, without the medium of an incorporated company, which was one, and among the latest in “the history of companies incorporated in Pennsylvania since 179:?”

But we have, perhaps, taken too much notice of this part of the remarks of the committee, which confute themselves at the first outset. For, can it be conceived that a *theory* could continue to be *favorite*, and that not only this state, but all the other states within the union, and even in the old world itself, for more than a century past, persevere in their error, if any better mode could have been devised or pursued?

As in combating the Committee in this point of *theory*, foreign to the *memorial* of the Canal Company, we cannot be accused with an intention to frustrate any views of the Committee for watering the city so, as we suggested before, no such intention can be drawn from the memorial itself; to which we now

return, and hasten to conclusion. In the *Prayer* of this memorial, as in a former one, feelingly interested, and sincerely sympathizing with our fellow citizens on their past afflictions, the Canal Company (after reciting their former endeavors to co-operate with the city, by any means in their power, under an all-wise Providence for the prevention of the like afflictions, and even to sacrifice for that humane purpose) earnestly PRAY the Legislature, “ for themselves, and on behalf of the Corporated Bodies of the city and suburbs, as well as of any other Corporate Bodies, who, from the necessity of the measure (for supplying the city and suburbs with water) may wish, on terms of reciprocal public spirit and usefulness, to unite the funds in their power or committed to their trust—

“ That the Legislature may grant and appropriate the duties on sales at auction, the house built for the President of the United States, and Lots thereunto attached; or so much of their stock in the Bank of Pennsylvania, as being pledged with the *stock of the Canal Company*, will finally complete the great work; and secure an interest to the Commonwealth, equal at least to what they can now draw from the appropriations solicited by the Company; joined to the high satisfaction which a wise and humane Legislature must derive, *in being the instruments of so much benefit to their country.*

But let us now enquire, what are the *wishes and prayers* of the Committee of the City Councils, as they may be gathered from the manner in which they are scattered and expressed in different parts of their paper? Not to embrace the assistance offered by the Canal Company for a speedy supply of water, “ by the completion of the *Canal*, which they had formerly stated as the method best calculated to secure the attainment of this desirable object; but suggesting that the waters of Schuylkill, conveyed by means of the Canal, is not the *only source of supply*, or the only tract of conveyance,” though they mention none other to the Legislature; and, declining any connexion or co-operation

with the Canal Company, they express the desire of the Select and Common Councils now to be, that the object of *primary importance* for watering the city, “*shall not*”
 “*by any act of the Legislature be made in any degree*”
 “*dependent on the completion of a navigable canal, as*”
 “*it may totally defeat the desired object, or procrastinate it for a length of time, ruinous to the welfare of*”
 “*the city. They are desirous (if the necessary powers*”
 “*are granted to them, the City Corporation, for the*”
 “*purpose, to introduce waters, not only for washing*”
 “*the streets and suitable for drinking and culinary uses,*”
 “*such as for that end may be desirable to the great body*”
 “*of their constituents, and to introduce them by such*”
 “*modes and means, as on mature examination shall be*”
 “*found not only most effectual, but at the same time*”
 “*most conducive to the advantage of the citizens of*”
 “*Philadelphia, unconnected with any view of private or*”
 “*partial interests whatever.*” They afterwards return to the Canal Company, and suggest the possibility of a *future* connexion with them, as a forlorn hope to be taken up, at will, if it be found, “*that the medium of*”
 “*the Canal prove, on the result of investigation, the*”
 “*only practicable, or under full view of all circumstan-*”
 “*ces, the most eligible means, whereby the intention of*”
 “*watering the city, can be best answered.*”

The investigation held up by the committee of councils, whether the canal be the only *practicable* or (under a *full view of all circumstances*) the most eligible means for *watering the city*, as well as for all the other important objects contemplated in its completion, was not necessary, for the committee to make on this urgency of the occasion; except to *frustrate* or *procrastinate* the work, if we borrow their own expressions, to militate against themselves. The *investigation* has been long since made, by as able persons as this country has yet produced, and sanctioned by the Legislature, as well as by the opinion and explicit declaration of the former-committee of the *city-councils*. But as the present committee, have made the *investigation*, by means of an able *engineer* of their own appointment, viz. Mr. HEN-

RY LATROBE, Esq. and have delivered printed copies of the result to both branches of the Legislature, conclusive as to the main points, "whether the completion of the Canal be not most *eligible and practicable*, and indeed the *ONLY* and least expensive, as well as the most *expeditious, safe and permanent, means or medium*, whereby the city and the neighbourhood thereof can be best accommodated with a copious supply of wholesome water, suited to their local circumstances; and, at the same time for accommodating and benefiting the country at large, by the accomplishment of all the other important objects, contemplated by the Legislature in the *charter* to the company? We shall, therefore, proceed, with a high opinion of Mr. LATROBE's candor and abilities, briefly to notice his *ingenious* work, and shall certainly agree with him in all his conclusions, so far as they have been made, not only with respect to the *Canal*, but to the practicability of any other means of supplying the city, with a sufficiency of wholesome water for culinary purposes; and to introduce an additional supply for watering the streets, and, if *possible*, cooling the air of the city;" which appears to have been the sole object of his appointment. Nor shall his modest and honorable apology be forgotten, "that the time, allotted to him, by his employers, had been so short that it cannot be expected his opinion should extend far into all the *Menutia* of the *levels*, and that he was obliged to take some point upon what he had heard, or been informed of, by others." We should think it illiberal, therefore, to make any observations, where such apology forbids, without first offering to himself, all the information and documents, in the power of the Canal Company to exhibit.

Mr. LATROBE lays down three indispensable requisites for this work, of watering the city; viz. that every proposal in which they do not meet ought, in his opinion, to be *at once* rejected.

1. "That the works must be in full operation before the end of July 1799.

2. " They must be *certain* in their effects; and *per-*
 " *manent* in their construction.

3. " They must not be liable to interruption from ice
 " or freshes, but be equally useful in the severest winter,
 " and in the wettest summer.

He then says that " having *maturely* considered all the
 " schemes which I have seen *published*, or *heard* men-
 " tioned in conversation, I will proceed to state what ap-
 " pear to be the *only means* of concentrating all these
 " requisites in *one work*."

We will now state the means and objects which he
 proposes to accomplish, he proposes for that end, viz.
 of supplying Water for *culinary* purposes, *washing* the
 streets and *cooling*, if possible, the air of the city; by ex-
 ecuting " Works *permanent* and *certain* in their effects,
 " equally useful in the severest winter and wettest sum-
 " mer, and to be in *full operation* before the end of Ju-
 " ly, 1799."

Of two proposals, the first of which he rather rejects,
 we shall notice the 2d, and his calculations of expence—
 this proposal being offered " as liable to no inconveni-
 " ence in the execution; but which, though not more
 " expensive at first, will, as it requires two engines, be
 " liable to more *annual* expence, viz. a *Reservoir* being
 " made on the banks of the Schuylkill, an engine will
 " throw up a sufficient quantity of water into a Funnel,
 " carried from thence into a *Reservoir*, in centre square,
 " which might be sufficiently elevated* to supply all the
 " streets, from Water street to Fourth and Fifth streets,
 " with water for *culinary uses*. To supply the rest, and

* By the completion of the Canal, *half its Water*, to the vast a-
 mount mentioned above, (without any *Engine* or *Reservoir* on the
Bank of Schuylkill near the middle Ferry, or any where else, may be
 delivered into the *Reservoir* in *Centre Square*, on a level of at least
 40 feet above the high water marks of Delaware or Schuylkill; so as
 to send Floods of water down all the Streets, and raise Fountains in
 most of them, without those *aerial castles*, and *elevated reservoirs*, of
different stories, which have been proposed.

The Committee of the Canal Company have received a Propo-
 sition dated Jan. 4th. 1799, from Mr. Sambourn, for throwing into
 the *Canal Reservoir*, by means of an Engine on the Bank of Schuyl-

“ to raise *fountains* for the purpose of *washing* the streets,
 “ a smaller engine and an *elevated* reservoir [more ele-
 “ vated than the former, must be meant] would still be
 “ necessary. It is *very evident*, that in either of these
 “ proposals, the three requisites meet—the work might
 “ be accomplished in a *few months*—the *ice* would never
 “ obstruct the operations of the works, and the *power* em-
 “ ployed, is that of which the amount and effect depends,
 “ not on the variable seasons, nor on the natural advan-
 “ tages of situation, but solely on the *option* of man. The
 “ expence would be 75,000 dollars—see his page 7,
 “ where it is added, that “ *Having accomplished thus*
 “ *much of the proposed object, which is declared to be*
 “ ENOUGH to substitute PURE for PUTRIFYING water, and
 “ EFFECTUALLY to provide for the CLEANSING and
 “ COOLING the streets—a very important part of it still
 “ remains unfinished, but which may be a work of MORE
 “ LEISURE.” On this part we may be allowed, at least,
 to offer a *query*, viz. If the accomplishment of his first
 object be ENOUGH to substitute *pure* for *putrifying* WA-
 TER, for *culinary* purposes, and *effectually* to provide for
cleansing and *cooling* the streets, how can any important,
 or indeed any *part*, remain to be finished, as a *work of*

kill, 30 Gallons of Water, for each House in the City, or 300,000
 Gallons per Day, supposing 10,000 Houses, for 25,000 Dollars, or
 a third part of the expence calculated by *Mr. Latrobe*. The Canal
 Company have had many other Projects offered, of a similar kind,
 which they could not think worthy of attention, nor within the de-
 sign of their incorporation; it being well ascertained, before the Act
 passed the Legislature, after *repeated* examination and levels, and ac-
 curate calculations of the quantity of waters any way contiguous to,
 or connected with Philadelphia, that no other Source or Supply
 of water for the City and Neighbourhood, dry and wet Docks and
 extensive inland navigation, could be obtained so expeditiously, or
 at so small an expence, as from the Waters of Schuylkill, taken off
 in their purest state, as high as the mouth of Stoney-Creek, or Nor-
 ristown, as hath been already suggested in our *Memorial*. The In-
 vestigations were not the work of a day, or riding out on a party of
 pleasure. The truly public spirited and ingenious *Dr. Rittenhouse*
 and others had devoted Months of their Labour and attention to this
 business, before they ventured to submit the plan to the Legislature
 as the Basis of an Act of Incorporation.

more leisure, or to require *public money* for *local convenience*?

If 75,000 dollars will accomplish *enough* for answering the purposes recommended by the Chairman of the City Committee to Mr. *Latrobe's* consideration and enquiry, viz. the best means "to supply the city with a sufficiency of wholesome water for culinary purposes, and for washing the streets and *cooling* the air of the city, we should be sorry to find any impediment to a temporary relief of this kind, and certainly there can be none, on the part of the Canal Company; and the sum of 75,000 dollars, is but small, compared to the amount of the benevolent grants of the Legislature, and the humane and charitable contributions of individual citizens, during any of the seasons of the late calamities, for the relief of the poor, without any interfering measure to protract or defeat the speedy completion of the Canal—which, besides affording the most ample supply of water for the City and Suburbs, will be of such immense benefit to the country at large as well as the city, in easy carriage of their agricultural products, their manufactures, building materials, &c. to the city: not to mention dry and wet docks for our own use, and for the use of the United States, now recommended by the Secretary of the Navy, as an object of national attention. It may be added also, that the citizens of our suburbs, of Southwark, and the Northern Liberties, are to be provided for by the Canal Company, agreeably to the chart r, with their share of water.

We shall now take a short notice of the *very important* part, which will remain to be executed as a *work of more leisure* for the benefit of *water* to the city, after *enough* is declared to have been done before, by means of the waters of Schuylkill, near the middle ferry, for this purpose:

Mr. *Latrobe* speaking of the Schuylkill says, (and we cannot but agree) that "In favour of the Schuylkill, the
 " principal circumstance is, the *uncommon purity* of its
 " WATER; its bed is every where narrow and rocky, its
 " sources lie entirely in the limestone country, and the
 " tide opposite to the centre of the town does *little more*

“ than raise the water by accumulation; and, to remove
 “ the *prejudice* against river water, he adds in his *post-*
 “ *script*, that “ Although most men prefer *spring* to river
 “ water, it may be doubted, whether the latter be not the
 “ most wholesome. It is certainly supposed by physicians,
 “ to be more generally free from noxious ingredients. The
 “ Indians, I am informed, from motives of health, now
 “ grown into habit, never drink water from a *spring*,
 “ when they can procure it from a stream. London is en-
 “ tirely supplied with *river water*. It is taken from the
 “ Thames in different places; from the new river, and
 “ from the river Lee, and has nothing to boast of the
 “ cleanliness of its aqueducts. I believe that the country
 “ in which the river rises (meaning the new river) has a
 “ basis of *chalk*. The water must, therefore, be similar
 “ to that of Schuylkill in *quality*, though very *inferior* in
 “ *purity*. During some years residence in London, I
 “ thought it very *pleasant*, and I am certain it is very
 “ *wholesome*. It is preferred to water of any spring near
 “ the city and suburbs; and those that have any fame
 “ (such as St. Paul’s or Aldgate) owe it to their coldness,
 “ not their superior *salubrity*.

If this character can apply to the waters of Schuylkill,
 even opposite *Centre square*, and within the reach of the
 tide, where Mr. Latrobe proposes to raise them in *suffi-*
cient quantity, pure for *culinary purposes*, and *effectually*
 to provide for *cleansing* and *cooling* the streets; certainly
 it will apply in a superior degree, to the waters of Schuyl-
 kill, where they are received into the *Canal*, at the mouth
 of Stoney creek. And from thence in passing down an *open*
Canal, in a *living stream*, at the rate of one mile per
 hour, first through marble and lime-stone grounds, and
 the rest of the way, over a gravelly bottom, to the bor-
 ders of the city (as may be seen where the *Canal* is already
 dug) the waters cannot lose, but must gain, both in *purity*
 and *salubrity*, over the waters of the same river, proposed
 to be raised opposite *Centre square*.

We excuse ourselves, for reasons already offered, from
 taking any notice of Mr. Latrobe’s *additional proposition*,
 respecting the *Spring mill* waters, or any defects that may

be found in it, from want of time, &c. for further examination; confining our remarks only to two points of material consequence—

- 1st. The expence of the work.
- 2d. The period of its execution.

ESTIMATE OF EXPENCE.

	<i>Dollars.</i>
1. “ Bringing the <i>Mill spring</i> to the city, - - -	275,000
2. “ Distributing the water throughout the city, meaning, (as he had before expressed himself) its most crowded parts, <i>first expence</i> ,	52,000
3. “ A <i>further expence</i> , necessary to extend the distribution to every <i>distant</i> part of the town, which cannot <i>easily</i> be ascertained; but if it is to extend to the growing suburbs of <i>Southwark</i> and the <i>Northern Liberties</i> , which are entitled to their share in the distribution agreeably to the Canal Act of Incorporation, we may fairly estimate this <i>second expence</i> , as at least, equal to the first,	52,000
	Dollars 379,000

Amount of the first three items of expence, - - 379,000

N.B. In this estimate, nothing is said of the purchase of the Spring mills themselves, their waters, buildings and works; on which the *proprietors* place a high value, as the great means of supporting their families, and cannot be expected to part with, from mere *public spirit*. Nor is any thing estimated for the purchase of the *ground*, necessary to convey this SPRING, from its source to the city; which will be no small sum, if we may compare it with the expence paid,

Dollars.

Brought over	379,000
and to be paid for the Canal Ground, with- in the same distance; including all the ad- vantages which the Company have by law, of an <i>impartial Jury</i> on their side, when a reasonable contract could not be made with the owners of the soil. On this head, then, a further sum may be estimated, - -	70,000
Total estimate,	<u>449,000</u>



ESTIMATE OF THE *TIME* NECESSARY FOR THE EXECUTION.

On this head, Mr. Latrobe says, "It *may* be executed in the year 1800, that is, in about TWO YEARS—undoubtedly meaning, *after the money is provided, and the works commenced.*

To this expence of - - - - -	449,000
Add the first expence for the <i>engines, refer- voirs, &c.</i> - - - - -	75,000

The whole for watering the city, without no- ticing the suburbs (as we have said be- fore), is - - - - -	<u>524,000</u>
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Mr. LATROBE, in his additional remarks, contem-
plating the great expence of the plan for watering the
city, recommended to his consideration, independent of
the *Canal*, has candidly subjoined, that *if the work* [of
the *Canal*] *could be accomplished in time, it certainly
would render great part of the expence he has proposed,
UNNECESSARY.* What he says on this head, it is highly
proper to quote in his own words, and to the credit of
his publication.

“ As to the CANAL, I am convinced that the very
 “ eminent and acknowledged abilities of the *Engineer*,
 “ Mr. WESTON, could overcome any obstacles which
 “ art dare combat ; and that a work, in which he has
 “ already done himself so much honour, would not want
 “ completion, if it depended upon his genius or industry.—
 “ If, therefore, the work could be accomplished in time, it
 “ certainly would render great part of the expence I have
 “ proposed unnecessary. But, from what I have heard,
 “ doubt may be entertained of the *possibility* of the ne-
 “ cessary expedition ; but I confess myself very *imper-*
 “ *fectly informed*. I fear the ice would embarrass the
 “ winter supply for culinary use ; but to every other
 “ purpose, its waters would be amply adequate.”

“ Wiffahickon creek has, I believe, not a *sufficient*
 “ quantity of water : The creek has been, even this win-
 “ ter, almost frozen to the bottom, and yielded very little
 “ water.”

Mr. LATROBE'S TWO DOUBTS, concerning the CANAL,
 (which he declares founded only on *hear-say* and *imper-*
fect information) we will strive to remove.—1st. As to
 the *possibility* of the *necessary expedition*, [in respect to the
 Canal] if there is only a possibility, which is implied in the
 word [may] that his work *may* be executed in *two years*,
 for a mere supply of the city with water, at such an im-
 mense expence as has been estimated, and if, according
 to his statement, the COMPLETION of the CANAL would
 render great part of this expence unnecessary ; can a doubt
 remain that in works of a similar nature, requiring simi-
 lar industry and expence, that which costs the *least* will
 be *soonest* executed, under the direction of an engineer,
 whose “ eminent and acknowledged abilities can ever-
 “ come any obstacles which art dare combat ?” The
 Canal Company have never calculated on a longer period
 than two years, aided by effective funds, to bring twenty
 times the *water* of Spring mill, into their grand refer-
 voir, in the vicinity of the city.

2d. Mr. LATROBE'S second “ *doubt*, or *fear* that the
 “ ice would embarrass the winter supply of water [by
 “ means of the Canal] for culinary use,”—grounded on

what he adds “ that *Wissahickon creek, even this winter, has been frozen almost to the bottom, and yielded little water,*” we hope, may be removed ; when we submit to his review the following *facts* and axioms, founded on hydraulic principles, drawn from the doctrine of *gravity*, and the laws of *matter* and *motion*. For,

What is asserted concerning *Wissahickon creek* is not a *fact*. This creek was not frozen *near* to the bottom ; and so far as it might be frozen, the quantity of running water in the creek, would not be sensibly diminished.— The same number of mill-wheels, were capable of operation during the frost, and the same quantity of water without sensible diminution, dischargeable at the mouth of the creek, as would have been discharged in any given time when there might be no frost, and when the surface of the running water was on a *level* with the surface of the ice, in time of frost. In the transient view which Mr. *Latrobe* took from the bridge over this creek, Dec. 27th, (the mills then going) and when observing the sheets of water still flowing over both dams, he expressed to the gentlemen in company, that *if we had but such a body of water as that, of sufficient elevation, near the city, the work he had in view might soon be in operation*. If then he had not been pressed in time, or had forgot to minute down what he saw, he would not have said afterwards, that *the creek, at that time, “yield as little water.”*

On this head, and in order to remove Mr. LATROBE'S *fears* or doubts, concerning the *winter* supply of water to the city, when the canal might be embarrassed by *frost*, we will recommend the consideration of the following *hydraulic principles*, with which he cannot but be well acquainted.

1. The velocity of *running water*, is caused not solely by the *declivity* of the channel, but the *depth* also ; and these two causes may operate in the same section ; their compound ratio being estimated in proportion to that which has the greatest force. Hence—

2. Where rivers have little fall, the *velocity* is chiefly caused by the *depth* of water; and *declivity* is not always to be estimated by *velocity*. Whence follows an important and invariable law, viz.

3. The volocities of the water of *two* sections of a river or canal (the head continuing permanent, and of the same height) are *reciprocally* as the *areas* of those sections; and *momentum*, or quantity of water running in the section of the one, in any *given time*, is constantly equal to that of the other, in the *same time*—otherwise the water would rise in one place and fall in another, or the BODY might run away and leave its HEAD behind.

In *frost*, the surface of *ice* in rivers, streams and *canals* having quickly gained its density, forms the channel into a *tunnel* or *culvert* for the *living water*; the permanent *head* increasing the *velocity* in any section of the tunnel, so that the same quantity will always pass in the same time.

This theory agrees with *experiment* and *fact*; and the quantity of water passing in any section of a river or canal, is always equal to the quantity of another, in the same time, bearing the same ratio or equilibrium in respect to the head; and the *velocity* multiplied into the sectional *area* of the one, and of the other, gives an equal *product* or *momentum*. Thus the water passing the *Schuylkill* at the *Falls*, although the *velocity* may be ten times greater than the velocity at the head of the Falls (where the channel, or any section of it, is reciprocally greater) will produce no inequality in the quantity passing through one part or another, in an *hour*, or any other time.—Hence, the height and quantity of the water passing at the Falls, during the severest days of the late frost, were not diminished below their natural standard, supposing there had been no ice, and the surface of the water, at the head of the Falls, on a level with the surface of the ice.

On the whole, it is submitted, whether the following *results* and *conclusions*, are not sufficiently established, in support of the memorial of the Canal Company to the Legislature,

1. That frost and ice (although they may produce a *temporary* suspension of the *navigation* of the *canal*, when the navigation of the waters communicating with it, are also suspended) yet they will produce no suspension, nor diminution, in the supply of water in the city, for *culinary* or any other purposes.
2. That the completion of the canal will answer all the anxious wishes of the country (in granting the public money) so as to promote their agricultural and *inland* commerce and interests; at the same time, that the city will share the benefit in respect to trade and navigation; but it will likewise accommodate the city and its suburbs, in all their other local circumstances, respecting the most plentiful supply of *water*; allowed to be at least of equal, if not superior *purity* and *salubrity* to any water that could be derived from any other source, if any other could be found,
3. That the *canal* may be in operation, to answer the great objects of the state, according to the charter, as *expeditiously*, with less than *half* the *expence*, held up as necessary for the object of watering the city, alone.
4. That in bringing the *canal* into immediate operation, as stated in the *report* of the committee of the Senate, “the State will, ere long, derive from their property
“ of *one thousand shares*, to be invested in it, a profit,
“ considerably exceeding the rate of interest established
“ by law.”
5. That the *report* of the *committee* of the Senate, to whom was referred the memorial of the Canal Company, proposes a separate bill, to enable the City Corporation to raise a sum—“ to be applied to such public
“ *improvements* as they may direct; and as a *tempo-*
“ *rary*, or even a *permanent* supply of water, by means of engines, may be one of these improvements, independent of the Canal Company, their committee (as above stated) would not, and God forbid that they should, throw any difficulty in the way of such immediate, or *temporary*-relief to the city, not sacrificing any of the *rights* of the Canal Company, committed to them for the benefit of the country at large.

Upon this statement, without following the example of the present City Committee, in questioning the former "*speculative*," or distrusting the future "*experimental*" proceedings of the *Legislature*, we leave them to prosecute such measures as they may judge best calculated to promote the welfare and prosperity, both of the city and country; with a hope that the present Committee of the City Councils, on more mature reflection, will see the impropriety of the least endeavour on their part, to *frustrate* or even *procrastinate* the completion of the canal, by repeating a desire, (in the nature of an *injunction* or *negative* to the *Legislature*) "that the watering of the city, *shall not*, by any act of theirs, be made in any degree, dependent on the completion of a *Navigable Canal*."

The *Legislature*, near seven years ago, passed an act for connecting the watering of the city by the medium of the canal, with the other great objects of public improvement, contemplated by that act. An immense sum of money has been expended in carrying on the work.— The *completion* of it is in near prospect. Public faith requires the *inviolability* of the *charter*, and public good, encouragement in the prosecution of its objects; but this *desire* of the Committee of the City Councils, *tends* to its *repeal*, or at least, leaving it *orphan'd*, and all its objects, for the benefit of city and country, frustrated or long procrastinated, for want of public aid and patronage.

All which is respectfully submitted.

WILLIAM SANSOM,
Chairman of the Committee.

January 19th, 1799.

P O S T S C R I P T.

THE following is the REPORT of the Committee of the Senate, referred to in the foregoing publication; and the consequent proceedings of the STOCKHOLDERS of the *Delaware and Schuylkill Canal Navigation*, in respect to the 3d *resolution* offered by the said Committee, viz.

A REPORT read in the SENATE of the Commonwealth of Pennsylvania, on Saturday the 12th of January 1799.

The committee to whom were referred the several *memorials* of the Select and Common Councils of the City of Philadelphia, of the Board of Managers of the marine and City hospitals, of the President, Managers and Company of the Delaware and Schuylkill Canal Navigation, and the petition of a number of the citizens of Philadelphia, on the subject of *watering* the said City.

Report, that a plentiful supply of *wholesome water* has become absolutely necessary to the prosperity, and, perhaps, to the existence of the city.

That your Committee apprehend a *completion of the Delaware and Schuylkill Canal* will effectually answer this valuable end; and are happy to find, that great progress has already been made in that work, on a plan more extensive than is necessary for the mere purposes of navigation, with an *express view* to supplying an abundance of *pure and wholesome water*, to the inhabitants of our metropolis.

Although the undertaking has been considerably retarded, by a want of adequate funds, your Committee are induced to believe, that it may be *speedily* perfected, if the State, becoming partakers of the flock, revive that confidence in the undertaking, which has been long wanting to induce the Stock-holders to complete

their shares, by paying the different sums called for by the Managers.

Your Committee entertain little doubt, that, in addition to the many advantages resulting to the City of Philadelphia, and its vicinity, from the immediate operation of the Canal, the State will, ere long, derive from their property invested in it, a profit considerably exceeding the rate of interest established by law.

The Committee, therefore, offer the following RESOLUTIONS, viz. *First*, That three Commissioners be appointed, on the part of the Commonwealth, to raise on loan, on the credit of the house intended for the President of the United States, and the duty on auctions, a sum sufficient to purchase, one thousand shares of the stock, in the Delaware and Schuylkill Canal.

Second, That the said Commissioners, as soon as they have effected the said loan, shall purchase, at a price not exceeding two hundred dollars for each share, one thousand shares of stock in the Delaware and Schuylkill Canal.

Third, That on the application of the Stock-holders of the Delaware and Schuylkill Canal, for an alteration of their Charter, so as to enable the State to appoint Managers of the said Canal Navigation, a Committee be appointed to bring in a bill, on the principles contained in the foregoing resolutions.

Your Committee apprehend, that many advantages would result to the City of Philadelphia, from investing its Corporation with a power of raising money by tax, for other purposes of public improvement, than those to which their authority on this subject is now restricted.

They, therefore, offer the following Resolutions, viz.

First, That the Corporation of the City of Philadelphia, be authorized to raise, on the taxable property within the City, a sum not exceeding dollars in any one year, to be applied to such public improvements as they may direct.

Second, That, in case of any sudden exigence which shall require such a measure, the Corporation may raise money by pledging one half the amount of the said tax, for any period not exceeding seven years.

Third, That a Committee be appointed to bring in a bill, on the principles contained in the foregoing Resolutions.

With respect to the *third* Resolution above, relating to the *Stockholders of the Delaware and Schuylkill Canal* they determined as follows, viz.

Philadelphia, Jun. 16th, 1799.

“ At a meeting of the STOCK-HOLDERS of the *Delaware and Schuylkill Canal Company*,—

“ A Resolution from a printed *Report* of a Committee of the Honorable Senate, being read in the following words, viz.

“ That on the application of the Stock-holders of
“ of the Delaware and Schuylkill Canal Company, for
“ an alteration of their Charter, so as to enable the state
“ to appoint managers of the said Canal navigation,
“ a Committee be appointed to bring in a bill, &c.”

And the same being fully considered by the Stockholders, and found consonant to all the principles held forth in their application for *aid* from the *Legislature*, made by the managers for several years past, and particularly to their memorial of January 25th, 1796.

PRAYING the Legislature to interest the state in a convenient number of shares; placing the state on the same footing as the original Stock-holders, in respect of future emolument and dividend; and also of their memorial of December 1797, *praying* the Commonwealth, in its wisdom and benevolence, (after the example of the neighbouring states of Virginia, Maryland, and New York) would become interested in a liberal proportion of shares, and of all the future emoluments of the works; deriving an interest probably fourfold, with a degree of honor far beyond any other mode of investiture, in the improvement of our *commercial* and *agricultural* interests.”

RESOLVED, therefore, *unanimously*, “ That we consider and recognize it as the right of the State, to appoint managers, in proportion to the shares in the Stock of the company, which the State may at any time hold; and that the *completion of the Canal* will be most certainly

and *expeditiously* effected, under the patronage of the Legislature."

Resolved, That the President and Managers be authorized, in the name, and on the behalf of the Stockholders, to request the Legislature so to alter the Charter of this Company, as to enable the State to appoint managers in proportion to the number of shares of Stock they may agree to hold.

Signed by order of the Stock-holders,

SAMUEL MAGAW, Chairman,

E R R A T A.

Page 10, lines 21 and 22, for " reasonings," read *reasonings*; p. 16, for " open" read *opened*; do. 38, after *city* insert *facilities*; p. 16, line last, dele the *Mr.* before HENRY. p. 17, l. 4, dele the word *not*, insert *the*. In line 13, same p. for ? place *semiter*; do. l. 28, and in some other parts, for *menutia*. read *minuter*; do. l. 29, for *point*, read *points*, do. l. 30, for *illeberal* read *illiberal*; do. l. 36, dele *viz.* and insert " he says" p. 18, l. 12, dele " he" if it being repetition, do. l. 26, for " funnel" read *tunnel*, p. 22, l. 29, after the word *then*, insert *he*, l. 26, 27, for " yield as," read *yield*; do. l. 35, for " declevity" read *declivity*, p. 26, l. 8, before *the* *momentum*, insert *the*, p. 17, l. 11, after the word " will" insert *not only*, do. l. 20, after the word, " *expeditiously*," insert *and* p. 23, l. 23, after the word " good," insert *pleads for*.

REMARKS

On a *second* Publication of *B. Henry Latrobe*, Engineer, said to be printed by Order of the Committee of the Councils; [of the City] and distributed among the members of the Legislature.

MR. LATROBE introduces his remarks with terrible complaints against the Committee of the Delaware and Schuylkill Canal Company, respecting their Address to the Committees of the Legislature, containing *Remarks* on his first publication. These remarks of the Canal Committee, he says, have "*crept* into the public papers:" but he omits to say that they *crept* (if they did not boldly *walk*) into the public papers, in the shape of Observations on his Piece, called "*A View*" &c. which had *crept* into the *public papers* before.

He then commences his furious charge upon the Canal Committee, in terms, whereof a few specimens follow—"I am treated in a manner so unjustifiable, upon any principle of candor, that I owe it as much to *myself*, as to the *Corporation*, to endeavor to protect my *opinions* and *assertions* against misrepresentation.—The address of the Canal Committee—is a continued series of misrepresentation and misstatement. The *real merits* of my piece are kept out of view, and it is attempted to discredit my arguments, by destroying my *professional* character; for if the representations in the address be true, I am *not fit to be consulted*."

Most confusedly mixt with these charges against the Canal Committee, are the following—"At the foot of the Pamphlet I observe the name of a man, whom I too much respect to believe he had the smallest share in the *manner* of the *Piece*." This *a-la-mode* disorganizing compliment to the "man whose name is at the foot of the pamphlet," (with a view to divide the *body* of the Canal Committee from its *Head*) comes with an ill grace, and is rather a *ceusure* than a *compliment*, when connected with what follows; representing this respectable man, as a mere *use of wax* to the *body*, and considering it as his duty to sign the production of the majority—a kind of proceeding which those who know Mr. *Sansom* better than Mr. *Latrobe* knows him, will never lay to his charge.

Mr. L. then charges the *majority* of the Canal Committee as "very foolishly calling him, Mr. *Henry Latrobe*, ESQUIRE." The *Mr.* was an error of the *press*, by printing *Mr.* for *B.* in the name *B. Henry Latrobe*, as written by himself. And if Mr. L. had turned his eye to the table of *ERRATA*, on the last page of the pamphlet, he would have seen the following correction, accompanying the publication, viz. p. 16, line last, dele the *Mr.* before *Henry*. And a further correction might have been added, (to save the imputation of folly—till his further *claim* to titles appears) viz. after the word LATROBE, dele *Esqr*; and, the word *Engineer* also, leaving only plain *B. Henry Latrobe*.

But the *folly* must not be increased, at *present*, by any further notice of Mr. *Latrobe's* introductory censures and lamentations—This may be a work of *more leisure*; and it would be making a *bad return* for the indulgence of the Senate and their Committees, before whom he has laid his lamentations and complaints, to wish the procrastination or postponement of their proceedings from day to day, on a subject “engaging the self-love of individuals, in a controversy about the accuracy of their observations, the justice of their opinions, or the extent of their mathematical knowledge.” Better at once would it be, in order to save the precious time of the Legislature, for the parties to be heard by Counsel (if granted) concerning their contending claims, if any such there are; and Mr. *Latrobe* himself would not be refused an opportunity, together with his Counsel, or the Counsel of his employers, to *protect* his opinions, so far as the State is concerned in them. With regard to the public at large, and the city in particular, his *opinions* are open to the discussion of any Citizen; and he will not be kept long in suspense concerning such discussion; by means of which the public will probably be enabled to decide, whether the misrepresentations and misstatement be on his part, or the part of the Canal Committee; who took him up on his own *ground*, and upon his own *concessions*, so far as concerns the Canal, and the *aid* requested and now in contemplation to be given by the Legislature, towards its completion. This was *fair ground*, with respect to Mr. *Latrobe*, whose officious interference, and ostentation of *professional abilities*, with his *doubts* and *fears*, appeared to have a tendency at least to *procrastinate*, if not to *frustrate*, the work of the Canal, in favor of the work in which he offers his services, and which, for any thing he has yet shewn, appears to be a confused and enormously expensive project of “*aerial Castles*, and elevated *Reservoirs*, of *different stories*, Fountains, Baths, &c.” (held up, on the ground of *professional abilities*, yet *unknown*, and *untried*, so far as the history of any thing in his works in *America* has come to the public knowledge)—and all this he has done in a way that cannot be otherwise considered than as inimical to a great public work, sanctioned by law, carried on at great expence, directed by *professional abilities* (which he has not yet questioned as *inferior* to his own) and in near prospect of completion, with the aid of funds far short of those which, he has confess'd, will be necessary to the accomplishment of his own projects. Upon his own *concessions*, fairly quoted in the address of the Canal Committee, they took him up; and on that occasion only (for it was not necessary on any other) was his name mentioned, with the utmost candor; and with a fair view, to obviate or remove his *doubts* and *fears* if possible.

A brief *recapitulation*, so far as the *Legislature* may be concerned with Mr. *Latrobe's* remarks, now before them, is all that is necessary.

The Canal Committee introduce Mr. *Latrobe*, on the subject of the Canal, with the profession of a *respect*, which he has but ill-returned.

“ It is highly proper, say they, to quote what he says on this head, in his own words, and to the credit of his publication.” The material part of what is quoted follows, viz.

“ If the work [of the CANAL] could be accomplished in *time*, it certainly would render a great part of the expence I have proposed *unnecessary*. But from what I have *heard*, doubts may be entertained of the possibility of the necessary expedition. But I confess myself very imperfectly *informed*. I fear the ice would embarrass the winter supply of water for *culinary use*—but to every other purpose its waters would be *amply adequate*.”

Mr. Latrobe's two DOUBTS, concerning the Canal—1st, *As to the possibility of the Expedition*; 2d, *The winter embarrassment by ice*; the Committee say they will *strive to remove*; and accordingly stated for his consideration, such principles and axioms, drawn from the doctrine of Gravity, and the laws of *matter and motion*—verified in fact by long experience and observation, on the comparative quantity of water running in Schoykill, Willahickon, &c. under the ice, and when there is no ice, in reference to the permanent head, as might be deemed conclusive, in an address to a *man of science*; [reference is had to this part of the address before the Legislature, from p. 24 to the end, without further quotation.] But Mr. *Latrobe*, in his last publication, intimates that his *doubts* are not yet wholly removed, and that he has not *feared vainly*.

His Reasons, such as they are, must have *some* notice, altho' very little is necessary.—

“ I shall always, (says he very *wittily*) feel myself much obliged for the Communication of professional Knowledge, whether the Book be offered by a MERCHANT or DIVINE. I am far from thinking that *Belidor, Bernoulli & Kaestner* hold a monopoly of HYDRODYNAMIC Science, and that after having *studied all they have written*, I may not receive Improvement where I *should not have expected it*.” Without saying much about this parade of Reading and Study, and shielding himself behind the Names of *Belidor, Bernoulli and Kaestner*; or what Improvement he might expect to receive from the Canal Company or any of the Members, in respect to their reading and study; he must not take it amiss to be told, that among those concerned in the projection of the Canal, and execution of the work, some may be found; who, altho' they have forgot more than ever he *read*, can still point out to him others besides *Belidor &c.* from whose writings he may receive Improvement in his *professional* character; and, not to burden him with many names of French, German, Italian or English engineers and writers, such as *Colbert, De La Hire, Marriotte, Gravesande, Defauguliers, Cotes, Varenus, Riccioli, Famiem Michelini, Benedictus, Castellus, &c.* it may be proper on the present subject, to refer him particularly to *Guglielmini*, first mathematician to the university of Boulogne, *Treat. de* ~~de~~ *Fiumi*.

Mr. *Latrobe* says he will “ state in language free from *technical phraseology*, the principle as it applies and the deduction as it ought

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“ to have been made”—This desire to avoid *technical phraseology*, is but a poor compliment to the understanding of his Readers, whom a few lines before he had addressed with such a hard-sounding *technical* word, as **HYDRODYNAMIC**. To avoid such hard words, and to come down to the level of the simple intellects of his employers and readers, (not excepting the members of the Legislature themselves,) he proceeds to illustrate his *Deductions*, by water (or by beer, which would have done as well) running from a hole in the side of a cask; further exemplified by a *Bowl of Toddy* Story, catching a nutmeg on its surface, a *fly* swimming on the surface of milk or tea, and *drinking* out the *bottom* of his bowl *first*, or before the top; while he strives to catch the *nutmeg* on the surface, in his mouth—*Risum teneatis*—The story follows, in the words of his note—“ This may be seen in a very familiar manner, by attempting to drink a grated nutmeg from the surface of a bowl of toddy: It will be seen that the nutmeg, following the motion of the surface is *stationary*; (*stationary following* might be corrected by *relatively stationary*, nay, *the stationary*) it even *runs back* from the mouth, while the liquor at the bottom of the bowl is drank first. Nor is it easy to get rid of a fly swimming on the surface of milk or tea, by endeavouring to pour it out.”

“ Q. E. D.”

Mr. Sambourn, mentioned by the Canal-Committee, as a brother engineer, is, in the last place, introduced by Mr. Latrobe, in *piteous plight*, and with an air of very arrogant superiority.

“ I do not know Mr. Sambourn, but from the mention made of him by the Canal Company; I have no doubt but he is an ingenious and respectable man.” But though Mr. Latrobe pays this compliment to his brother engineer, he soon strives, in his great superiority of knowledge, to retract or soften it away.

“ As to the expence of a steam engine in this country, I know, that he [Mr. Sambourn] is much *misinformed*. I should be sorry to see an *honest* man tied down to execute the work at the sum he mentions. Besides, of 300,000 gallons per day, thrown up at the river, not half would reach the city; the rest would be lost in leakage, absorption, and evaporation, in near a *mile* of Canal and **TEN ACRES** of *reservoir*. In a hot windy day, not a *drop* would remain.” Here is a new stroke at the Canal. In *winter*, its waters are to be nearly frozen up; and in *summer* absorbed, evaporated, &c. (in the *bed* and *reservoirs* attach'd) that *not a drop* would remain.

But *Ten Acres* of a *Reservoir*, in center square, or on the top of one of his large Castles! this is something equally new and marvelous indeed! and had it been known before to the Canal-Committee, (considering the value of ten Acres of Ground in that part of the City,) they might have added another considerable Item to Mr. Latrobe's bill of cost; as the *Reservoirs* for his greater works, whether in the *Ground* or in the *Air*, must be supposed as capacious as ~~that~~ which he projects for his brother Sambourn. Evaporation must have it's effect both ways. But, *ten Acres* of *Reservoir*! where did Mr. Latrobe learn that the *Grand Reservoir* of the Canal would require *ten Acres* or the twentieth part of *Ten*?

those

But this strange *idea* of Ten Acres *reservoir*, was held out as necessary, perhaps, to damn Mr. Sambourn's project, or any other having a connexion with the Canal; the *completion* of which would give the death-blow to all Mr. L's romantic and expensive projects, as well as to the emoluments and honours contemplated by him, from the projection and execution of a greater work than the *Canal*. Any project or practicable measure, for an immediate and temporary supply of water to the city, on Mr. Sambourn's plan, or even Mr. Latrobe's, which can be accomplished in seven *months*, the Canal Company most fervently wish to see in execution; and their Committee have *pray'd*, God forbid that they should throw any difficulty in the way of such immediate or temporary relief to their fellow citizens; from the memory of the *past*, anxiously boding future afflictions.

If Mr. *Latrobe* could confine himself to this *temporary* seven months work, which he has again and again declared to be *enough* for *temporary relief* to the city (if under Providence relief is to be had this way) without concerning himself with the *permanent relief* to be obtained by means of the Canal, in *addition* to all the other objects of its completion for the mutual benefit of city and country; he would hear nothing from the Canal-company on the subject of his writings; which though they may excite *ridicule* in some parts, cannot but provoke *indignation* in others.

Recurring again to the *Ten Acres of Reservoir*, as it must be an important object with the city corporation that the ponds and stagnated waters in the vicinity should be drain'd or filled up, it may be presumed that even their own engineer will not be permitted to spread an area of Ten Acres reservoir, although of the *purest* water, any where within the ground plots of the city and suburbs; and it has been said before, that the *Canal engineers* have *never* contemplated a reservoir of an area amounting to above the *twentieth* part of *Ten Acres*.

Mr. Latrobe complains of misstatements and garbled quotations of his work, by the Canal Committee; one instance he gives, is as follows, in his last piece, p. 8, 9.—“An attempt is made to charge me with *extreme silliness*, in having said, that *after enough had been done for supplying the city with PURE water, and WASHING and COOLING* the streets, still a very important part of the work remained unfinished. *I have said no such thing.*” But how does he prove this? He tries to prove it by misquoting or not fully quoting *himself*, suppressing the most material part of his own words by an &c. “I have said no such thing,” (says he, saying and unsaying).—“I have said enough would have been done to supply pure water, &c.—but nothing would have been *effectually accomplished* to supply *COOL water*, or water against which there is no *prejudice.*” Now, *this* is a direct denial of his own words, as is any stated by the Canal

Committee in the *quere*, page 19, to which he refers—as follows,—
 viz. “ Here we may be allowed at least to offer a *Query*
 viz. “ If the accomplishment of his first object be ENOUGH to sub-
 stitute pure for putrifying water, for culinary purposes, and effectually
 ally to provide for cleansing and COOLING the streets, how can an
 important, or indeed any part remain?” How does he reply? “ I
 have said (says he) no such thing;” (i. e. nothing about cooling—)
 “ I have said [only] that enough would have been done to supply pure
 water, &c. but nothing would have been done to supply cool water,
 &c.” Then the cooling the streets, which he mentions before as effectually
 provided for, must be understood to be done, not by cool,
 but by hot water.

He had said in p. 4, that his first object being accomplished, his
 second, by the Spring-mill waters, though very important, “ might
 be wholly omitted,”—and p. 8, that he had not spoken of any definite
 time for bringing the mill-spring to the city; and yet at the foot
 of his estimate of 275,000 dollars for his work, he says it may be ex-
 ecuted in the year 1800, or in two years; but with an expence, not
 easily to be ascertained, in the distribution of the waters (when brought
 to the city) to every distant part of it. If there be any mistake in
 these remarks, they can only arise out of his confused statements of
 time and expence. In p. 19 he boldly asserts, “ that water brought
 from a reservoir, suppose that of the canal in Center Square, more
 than 40 ft. above the tide water of Delaware, by connecting pipes,
 would not raise a fountain of five feet, in any part of the city above
 Front-street. If this assertion is not more bold than just, what will
 he say to his own project of fountains, &c? or what shall be said of
 his judging of levels by his eye, or of efficient surveys made in one
 day's ride, without seeing or touching the canal ground in the whole
 way; until he came to Spring Mill; except where he passed under
 its tract at the falls of Schuylkill, and Willahickon bridge?

But, sparing other remarks at present, it is only to be added, that
 in p. 8, 9, of his first publication, entitled “ A View, &c.” speaking
 of his Spring-mill aqueduct, (which by mere guess work is to be sup-
 plied in quantity, highly over rated, with a body of water suffi-
 cient to fill and run through a trunk of from four to five feet in section)
 he says, “ as the aqueduct, before it reaches Philadelphia would gain
 a very considerable head, the same supply would be received, but in
 less time.”

This error, the Canal Committee, gave Mr. L. an opportunity to
 correct, before he committed himself to the public. see p. 26, Law 3d.
 concluding that in the case he supposes, “ the BODY would run away
 and leave the head behind”—But as he makes the technical terms of
 that Rule or Law, an excuse for passing over what he could not refute:
 let us have another Bowl of Toddy to settle the matter; and let him

drink the whole, Top and Bottom, no matter which is first drank up.
PROOF. His throat will be narrower than the *mouth* of the *Bowl*, or the
 Velocity of any section of the *Toddy* down the throat will be greater
 than in a section in the *Bowl*, reciprocally as any *sectional* area of the
 throat is less than that of the *Bowl*. Or if this be too *technical*, when
 the *Toddy* is drank up, the whole quantity drawn in any given time
 from the *Bowl*, will have gone down the throat in the *same time*, but
 not in *less*; for a moment will intervene between the emptying the
 whole *toddy* out of the *bowl*, and passing it through the *mouth*, down
 the *throat*, except a *mouthful* should be withheld, along with the *nut-*
meg to season or wash the *gullet*, at *more leisure*!

Say—
not

Upon the whole, having now done with the *Toddy*, the *Nutmeg* and
 the *Fly*, (and all malice apart) if Mr. Latrobe feels himself *hurt* in
 his professional character, by an examination of his opinions, and
 conclusions, so far as they apply in the projection or prosecution of a
 great work, which he offers to undertake for public benefit, and at
 public expence; he must consider the *hurt* as coming from his own
 hand, and the result of the *opinions* and *conclusions* themselves, not of
 the examination. If, then, he wishes to *save* his character and not
 become a *felo de se*, (no matter whether the advice comes from a *mer-*
chant or *divine*.) let him *write no more*, or *strive to write like a gentle-*
man, and a *man of science* and *consistency*.

He will not find any name at the foot of this publication, as he took
 too much liberty with a name at the foot of a former one. But he
 may substitute any names, or name, either of the whole, or any part
 or individual, of the Canal Committee, as he may think it best.

January 26th, 1799.