Maryland, has very much injured its utility to the country at large.

In a still greater degree than the Potomac canal, the Susquehannah canal, beginning, at the Maryland & Pennsylvania line, and ending at the head of the tide, has the defect, not only of receiving the landwash of the hills and ravines, but also two considerable rivers, the Conewingo and Octorara, partaking thus of all the danger arising from their inundations, and receiving their alluvium. This canal is also applied to the purposes of a mill race. Other inconvenences attend it which arise from the most unfriendly nature of the river, and the local feelings of the state legislatures of Pennsylvania and Maryland, at the period of the incorporation of the company.

The Conewago canal, about 50 miles higher up the Susquehannah, is also a mill-race, and is the property of an individual. It is of difficult entrance, which is to be regretted, as it ought to be the means of passing a short but very dangerous fall of the river, which interrupts a long extent of very good navigation.

Having thus pointed out the general and common defects of the canals, to which I may add the general want of proper slopes to their banks, I will now enter upon the very thankless task of giving an honest opinion respecting them in detail, viewing only the *public interests*, and perfectly conscious of the bearing of what I shall say, upon private feelings. These feelings, however, are extremely short-sighted; for nothing could be more advantageous to the individuals most interested, than those measures which would most benefit the public.

The James river and Appomattox canals stop short of tide water. The most important of these canals is that of James river. Upon the coal mines of James river our Atlantic sea-ports will soon become dependent for their chief supply of fuel. That dependence exists already in respect to the fuel required for a variety of manufactures, and even now the smiths within 10 miles of our sea ports, require in order to carry on advantageous business, a supply of Virginian coal. There are three means (and I think only three)—by which the Virginian coal can be brought to the tide: 1. By a small canal and roads, immediately from the mines south of the river to the shipping tide water at Ampthill or its neighborhood, along the valley of Falls creek: distance I believe, 20 miles. This is a route easily practicable and at a moderate expence, for Falls creek rises in the coal mines themselves. 2. By the turnpike road to Manchester opposite Richmond. This road has been sometime completed, and is of the highest utility. 3. By James river to the head of the falls, and thence by the canal to Richmond. This is for two-thirds of the coal country, the best and most obvious route. For from all the mines the coal may easily be brought to the river on rail roads, and thence boated, independently of the cheaper conveyance which Tuckahoe creek might be made to yield to a great extent of coal land now little worked. But of what adequate use is this navigation in boats carrying at an average 200 bushels of coal only, when, if the canal were well constructed, 1000 bushels might be as easily and as cheaply conveyed; and when, on their arrival in Richmond, they must be unloaded, again loaded into carts and carried down by a bad road to the tide at Rockets to be shipped? The Manchester turnpike, with all its expence of waggons, horses, and drivers, and the consequent waste of *labor, capital, food* and *forage*, is a better, and I am told, as cheap a mode of conveyance.

The means by which the canal itself may be made much more useful, I will not consume your time and patience in detailing; what is most important, taking the whole subject into view, is to connect the canal, such as it is, with the tide.

In the year 1795, Mr. Weston, then engineer to the western navigation companies of the state of New-York, was called to Richmond to give his advice and opinion on this subject. It amounted to this: to connect the basin with the foot of the falls, by a succession of ten or eleven locks in one tier, carrying the race of Ross's mill upon an acqueduct across the canal at the foot of the locks. With all deference to his talents, I cannot help remarking, that of all expensive projects of which I ever heard, this would have been one of the most useless. For independently of the excessive inconvenience and detention which such a tier of locks at the most busy part of a navigation would occasion, the boats would arrive at their foot, in a very considerable rapid, now impracticable, and which could only be made practicable by blowing up the rocky bed of the river. When arrived there, two miles of tide water must be encountered; to navigate which, these boats are wholly unfit. I cannot help thinking that the present mode of conveying the coal to Rockets is not much less eligible. I refrain from stating many other objections, which are professional, and which I believe were, as well as those already mentioned, as evident to Mr. Weston as to myself; but objections of another nature, more powerful than mere physical difficulties, opposed every project excepting that which he proposed.

In order to connect the basin of the James river canal with the tide, a very simple means is offered by the nature of the ground. To do this it will be necessary to form a capacious basin at Rockets, communicating with the tide by one or more locks. To carry a canal from thence along the level bank of James river to Shockoe creek. A cheap aqueduct of one arch of 30 feet span will carry the work across the creek into the back street. The canal will then go up the back street, mounting by successive locks, not more than two in each tier, into the basin. The canal from Rockets to the basin on Shockoe hill, should be of 9 feet draft of water, and the locks 100 feet long and 18 feet wide. This canal would of course bring vessels which navigate our coasts and bays and run out to the West-India islands, into the basin on Shockoe hill.

The legislature of the state of Virginia, (for the commonwealth is deeply interested in the stock) has from time to time expressed great anxiety on the subject of completing this canal. But the dread of unforeseen difficulties and risks in carrying the work below the basin, and the value and productiveness of the stock in its tate, have hitherto overbalanced this anxiety. But considering Richmond as the principal source of fuel for the cities on our sea-coasts at least until the mines of Cape Breton shall supply us, I feel a rational sentiment in deeply regretting the very fatal policy which maintains and supports the error, and the mutilation of this most important work. I will not at the same time deny, that when it is considered that those who projected and executed the canal were men of no acquaintance either with general science, or with this particular branch of art, and knew nothing of canals but from books or hearsay, they have already done wonders. They deserve the thanks of their state, and of the union. But the work should not stop where they had left it. Nature has, perhaps, done more for Richmond than for any scite where a city has been planted. For 10 miles above the city on both sides, and upon several islands of the stream, there are innumerable mill seats, supplied by one of the noblest rivers in the union. Immediately above the head of the falls lies an inexhaustible treasure of coal. Every art and manufacture to which human ingenuity can employ fire and water, may be here carried on with the least expence. From above, an easy and wide spreading navigation, collects on this spot all the raw materials which our climate can produce; below, a river capable of bearing sea-vessels sufficient for every trade, but that across the ocean, is ready for the exportation of merchandize. The town itself is placed on a healthy and commanding ground. But to improve these advantages to the utmost extent to which our population is equal, nothing would so much contribute as the completion of the Richmond canal.

I have dwelt especially on the coal trade to which this canal is subservient, as of first rate national importance. It is of no less importance to the state of Virginia as a means of conveyance of agricultural produce. As you will receive an answer in detail to your queries relative to the amount of all sorts of produce carried upon it, and of its actual trade, I will not add any thing further to what I have already said on the subject, but to observe—that at some distant period, the Chickahominy, a river rising in the coal country, and discharging itself into James river   miles below Richmond, where ships may take in their cargoes, offers a mean of carrying down the coal destined for distant exportation.

A canal has often been projected for passing the falls of the Rappahannoc at Fredericksburg. There is no reasonable hope, however, that this work can soon be executed. The ravine of the river at the falls on either side is so abrupt, rocky and irregular, that great expense must be incurred to effect it—an expence not likely to be repaid by its trade for many years.

A canal to connect the Rappahannoc with the Potomac, a few miles below Fredericksburg, across the northern neck, has also been spoken of. It would be a highly useful work, but would require a tunnel of 2 or 3 miles. I believe it could be executed at an expence not greater than the tolls would remunerate. Such a canal, however, does not belong to the class of which I am now speaking.

The Potomac canal consists of two parts—one to pass the great falls 14 miles above Georgetown—the other to pass the little falls. The errors committed in the construction of the work have been enumerated above. The trade of this canal, especially during the year 1807, has been so great, that there appears every prospect of its becoming a productive work—*in those years*, in which there is a considerable and equal quantity of water in the river. But upon this circumstance it must always depend. The information respecting it, which can be obtained from the company, on the spot, renders it unnecessary for me to say more upon it.

No attempt at the improvement of the navigation of any of the rivers of Maryland between the Susquehannah and the Potomac, has been made, nor is there in the prospects of advantage to be derived from the navigation of the two Patuxents, the Patapsco, or any of the lesser rivers falling into the Chesapeake, any thing which could at present tempt capital into such an undertaking.

But the Susquehannah itself has been for many years the object of almost all the attention directed in the states of Maryland and Pennsylvania, to the improvement of our internal navigation. About 6 miles above Havre de Grace, this mighty river meets the tide. The place is now known by the name of Smith's ferry. The map of the river from thence up to Wright's ferry (Columbia) in Pennsylvania, which I made in the year 1801, when directing the works carried on for the improvement of the natural bed of the river, and which by favor of the governor of Pennsylvania, I am able to exhibit with this memoir, will explain the nature of this part of the river very minutely, being drawn to a very large scale. The whole of this extent is one tremendous rapid, which in fact continues to the N. W. side of the Chickalunga hills, 3 miles above Columbia. The rapid is not every where of equal velocity, or equally dangerous. Wherever the river crosses a valley of limestone or slate, the rocks are worn down in a smoother and wider bed: but when it has to cross a ridge of granite, its course is immediately broken by irregular masses and ranges of rocks; its bed is narrow and enclosed by precipices, and its torrent furious and winding.

The Chickisalunga falls can be descended without danger, and no attempt to open them has been thought necessary. The ridge of granite hills through which they break, bounds on the N. W. the beautiful limestone valley of Columbia. Across this valley the river runs rapidly, but smoothly. Another narrow ridge of granite hills crosses the river immediately below Columbia, over which the river falls rapidly, and then enters the wider limestone valley known by the name of the Jochara valley. The river spreads here to the width of three miles, its stream is gentle though rapid, and it abounds in beautiful and fertile islands. It then suddenly contracts and is received into the narrow ravine which it has sawed down in the granite hill called Turkey hill. From its first entrance into the Turkey hill, to the tide, there is no part that deserves the name of a sheet of smooth water. When the river is full, the whole ravine about half a mile in width contains only one furious torrent in which few rocks comparatively are to be seen above the water; but the danger is not the less, and very skilful pilots, and many stout hands are required to carry a boat or an ark safely down But in the autumn, and in a dry season, the river itself can for 6 miles scarcely be seen, and its bed appears a barren and dry waste of irregular rocks, among which the loud roaring of water is only *heard*: for, from the Turkey hill to near the mouth of Connestogo, the whole river is discharged through a channel generally about 60 feet wide, in the greatest part of which the depth and the rapidity of the torrent is such, that it has not been fathomed. About a mile below the mouth of Conestogo, a narrow limestone valley touches the river on the N. E. side, but on the west shore not a trace of limestone is to be seen. Four miles below Burkhalter's ferry, the river arrives at the high range of granite hills, abounding in copper, in which the gap mine is situated, and at a place called M'Call's ferry, it narrows to the width of 16 perches. Here I attempted to find bottom with a line of 180 feet, but failed, notwithstanding every precaution taken to procure a perpendicular descent of the weight attached to it. Through this pass the water is rapid, but smooth and safe. The river rises here rapidly and very suddenly after the fall of rain above; and it will never be possible to erect a safe bridge at this place, so often mentioned as the most practicable. The obstructions to navigation by 3 rapids below M'Call's is not so considerable as to endanger the arks and boats that descend, until they arrive at the Baldfriar falls, below Peachbottom and about 8 miles above the tide. From M'Call's to the slate valley of Peachbottom, the river is filled with islands called the Bear islands. Across the valley of Peach bottom, and above the Baldfriar falls, the river is wide and safe. The best natural navigation, and that always pursued by boats descending by the natural bed of the river, is on the west side, from the foot of the Bear islands. Above that point to Columbia, the best passage is on the east side. The most dangerous falls below Peachbottom were Amos's and Hester's falls, on which many wrecks annually occurred until the late improvements of the navigation were made.

From this description it may easily be imagined that if the descent of the river with boats loaded with produce was dangerous and difficult, the ascent was still more so. The natural obstructions were besides increased by fish dams in every part of the river, and the rival interests of the states of Pennsylvania and Maryland prevented, for many years, every attempt at artificial improvement of the bed of the river. In the mean time each state took measures to go as far towards rendering the navigation of this river useful, to their respective interests, as their means & limits would permit; and a company was incorporated in Maryland, to make a canal from the Maryland line to the tide, to pass all the obstructions of the river of the eight lowest miles; and in Pennsylvania two campanies were also incorporated, the one to connect the Susquehannah with the Schuylkill, by a navigation taken out above all the dangerous falls, and the other to connect the Schuylkill with the Delaware. The objects of none of these companies were advantageously accomplished. The Susquehannah canal company have however, completed a navigable canal, liable to the objections which I have above noticed. The Pennsylvania companies have made considerable progress in the works, under the direction of a very able engineer, Mr. Weston, but have not completed either canal so as to render them useful or productive.

At last, in the year 1801, the states of Maryland and Delaware having passed laws incorporating a company for the purpose of cutting a canal between the Chesapeake and Delaware, a former law of Pennsylvania, appropriating 10,000 dollars to the removal of obstructions in the Susquehannah, went into effect; and the late colonel Fred. Antes, than whom no man was better fitted to accomplish its object, was charged with its execution. But he died on his arrival at the river, and the direction devolved upon me. The enclosed report to the legislature on this subject, details the extent of the work executed, and the principles on which I proceeded in the attempt to make a practicable and safe navigation both up and down the river. I will here only repeat that all my exertions were bent to force through all obstructions, a channel clear of rocks, of 40 feet wide, close to the Eastern shore, never leaving any rock upon which a vessel could be wrecked between the channel and the shore—so that in the most violent freshes a boat should always be safe, by keeping close in shore. Rocks of immense magnitude were therefore blown away, in preference to the following a crooked channel more cheaply made, but more difficult and dangerous, and varying in safety and practicability, according to the degree of the rise of the river. There is however one part of the navigation in which the bed of the river must forever be pursued, namely, from the Indian steps above M'Call's to below the gap at *M'Call's*:—a part of the navigation, which, if art can conquer it, must be undertaken in a state of the country infinitely more abounding in wealth and population than at present.

Of the Chesapeake and Delaware canal.

Having now answered that part of your enquiry which relates to the general subjects of canals, I come to the particular merits of the Chesapeake and Delaware canal, of which you requested me to give you special information; together with my opinion on its location, unbiassed by any interests but those of the public.

The very able report of the committee to whom your letter to the president and directors of the company was referred, and who did me the honor to confer with me on the subject, conveys to you all the information which can be given of the history of the company, their pecuniary resources and difficulties, the motives that directed their choice in the location of the work, and the system under which it was begun and pursued. Every thing also that can be collected by the most indefatigable enquiry as to the probable proceeds of the canal, and the advantages it offers to those who have adventured in it, is also detailed; and there remains to me only the task of giving you that professional information, which, as engineer to the company, I have obtained; and to explain to you the means of executing it, as far as they are determined by the nature of the soil and the levels of the country.

The alluvial land lying below that part of the granite ridge which crosses the peninsula from the ferry opposite to Haver-de-Grace, reaching the shores of the Delaware, at Wilmington, may be considered as a regular inclined plane, slopping gradually to the south-east at the rate of about 6 inches in a mile. Immediately below the granite ridge—that is, along the foot of Gray's hill, Iron hill, and along the south bank of Christiana creek, which runs parallel to, and close under, the ridge—its highest inequalities seldom exceed 80 feet, nor does the common surface fall below 70 feet above the tide of the Chesapeake at high water. This plane extends from the granite ridge to the ocean—and the only considerable depressions to be found in it, are the beds of the land drains, which are worn down into it and produce the appearance of vallies; but there are no insulated hills whatever, and the vallies are merely depressions of the ground below the plane. Hence it is evident, that by going round the heads of the water courses, a line of canal may be found across the peninsula between any two points on the opposite bays, in which the variation of level on the summit will be very small, and that by making the bank out of the spoils of the cut, a canal may be made at the smallest possible expence by digging and removing earth, and at no expence whatever for works of masonry, excepting at each end, where the descent requires the construction of locks. For by following the ridge dividing the waters which drain into opposite creeks, the necessity of culverts and aqueducts may be wholly avoided. The soil is also of the kind most easily cut, being generally of a sandy loam on or near the surface, and beds of good clay are found in abundance for all purposes of puddling.

(To be Continued.)

PUBLIC SALE.

BY order of the Orphans Court of Prince George's county, will be sold at *public sale*, at Vansville in Prince Georges' county on Saturday the 15th day of October next, the residue of the personal estate of Zachariah Baldwin late of said county, deceased; consisting of sundry valuable negroes—a credit of six months will be given on the purchasers, giving bond with approved security, bearing interest from the day of sale.

The sale to commence at 12 o'clock.

HENRY CULVER, Adm. with the Will annexed.

September 26—w3t

By PERMISSION,

WILL sail from the Eastern Branch in the course of 10 or 12 days for *NEW ORLEANS*, the brig President, for freight or passage apply to Richard Parrott, Georgetown, or to J. Cassin, near the Navy Yard, Washington.

September 26—3t

Prince Georges' county to wit:

I HEREBY certify that *Notley Maddox* of the said county brought before me as a stray, trespassing on his inclosure, a dark brown GELDING about 12 years old, 14 1-2 hands high, a small star in his forehead, switch tail, heavy lopp'd ears, no perceivable brand, much galled both by the saddle and gears.

Given under my hand, a justice of the peace in and for the county aforesaid, this 26th of July 1808.

HENRY A. CALLIS.

The owner of the above mentioned Horse is desired to prove his property, pay charges and take him away.

NOTLEY MADDOX, living near the Eastern Branch bridge, Prince Georges' county Md.

September 26—w3t

FOX's NEW HISTORICAL WORK.

Just received from Philadelphia, the History of the Early Part of the Reign of JAMES II by the Right Hon. Charles James Fox.

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September 26—4t