I rose at the dawn, and without
asking or bestowing a blessing, fellied
forth into the high road to the city
which passed near the house. I left
nothing behind, the loss of which I
regretted. I had purchased most of
my own books with the product of
my own separate industry, and their
number being, of course, small, I
had, by incessant application, gotten
the whole of them by rote. They
had ceased, thereore, to be of any
further use. I left them, without
reluctance, to the fate for which I
knew them to be reserved, that of
affording food and habitation to mice.

I trod this unwonted path with all
the fearlessness of youth. In spite of
the motives to despondency and ap-
prehension, incident to my state, my
heels were light and my heart joyous.

"Now," said I, "I am mounted
into man. I must build a name and
a fortune for myself. Strange if this
intellect and these hands will not sup-
ply me with an honest livelihood.
I will try the city in the first place;
but if that should fail, resources are
still left to me. I will resume my
post in the corn-field and threshing-
floor, to which I shall always have
access, and where I shall always be
happy.

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I had proceeded some miles on my
journey, when I began to feel the
inroads of hunger. I might have
stopped at any farm house, and have
breakfasted for nothing. It was pru-
dent to husband, with the utmost
care, my slender flock; but I felt
reluctance to beg as long as I had
the means of buying, and I imagined
that coarse bread and a little milk
would cost little even at a tavern,
when any farmer was willing to bo-
slow them for nothing. My resolu-
tion was farther influenced by the
appearance of a sign-post. What
excuse could I make for begging a
breakfast with an inn at hand and
silver in my pocket?

I stopped accordingly and break-
fasted. The landlord was remarkably
attentive and obliging, but his bread
was stale, his milk four, and his
cheese the greenest imaginable. I
disdained to animadverton these
defects, naturally supposing that his
house could furnish no better.

Having finished my meal, I put,
without speaking, one of my pieces
into his hand. This deportment I
conceived to be highly becoming,
and to indicate a liberal and manly
spirit. I always regarded with con-
tempt a scrupulous maker of bargains.
He received the money with a com-
plainant obeisance. "Right," said
he. "Just the money, Sir. You
are on foot, Sir. A pleasant way of
travelling, Sir. I with you a good
1,1
day,
On supplying the City of Philadelphia with Water.

prospect. Our philosopher asked many questions as to their natural history and productions. La Roche observed the sublimity of the ideas which the view of their stupendous summits, inaccessible to mortal foot, was calculated to inspire, which naturally, said he, leads the mind to that Being by whom their foundations were laid. "They are not seen in Flanders!" said Ma’moiselle with a sigh. "That's an odd remark," said Mr. — smiling. She blushed, and he enquired no farther.

'Twas with regret he left a society in which he found himself so happy; but he settled with La Roche and his daughter a plan of correspondence; and they took his promise, that is, ever he came within fifty leagues of their dwelling, he should travel those fifty leagues to visit them.

[To be Continued.]

A Letter, to Dr. Benjamin Smith Barton, on supplying the City of Philadelphia with Water.

Boston, December 18, 1797.

DEAR SIR,

ALTHOUGH this letter should not contain one proper idea on the subject matter of it, or afford one new and useful hint, yet I do myself honour by writing, because it evinces my anxiety for, and regard to the city of Philadelphia.

The epidemic which has prevailed in two summers in that city, is very alarming. It is natural for mankind to receive the abatement, or interruption of an evil, as its cure. But when it has been so exceedingly distressing as that which has afflicted your society, it is our duty to be anxiously engaged in the means, which under a Divine blesing, may avoid it, or arrest its progress in future.

Whether the fever has been imported, or whether it has been generated in the city, yet there is clearly, a general predisposition to it at a certain season of the year; and this must be produced by a general cause. I may be altogether in an error, when I attribute it to the air, and water. But believing that I am right, I wish to offer you a few thoughts on the subject, as to a remedy.

I have not had the pleasure and advantage of being much in Philadelphia, but I recollect the face of the city as a plain. There are no hills there, and of course must be a deficiency of springs in the earth. The water of your wells must of course, when the water is low, depend in a great measure, upon filtrations from the river, and from receiles near the surface of the ground, or from both. The waters, as they pass, partake of the damp and vapours near the noifome vaults, &c. This, added to the injury they receive from their stagnant state in the wells, cannot fail to render them very unwholeome.

Your atmosphere is not agitated by the sea-breezes which we complain of in Boston. The reflection, by the brick walls, of the rays of the sun, in the heat of summer, renders the air, in a degree, unfit for respiration, and deprives it of that elasticity which is necessary for the support and invigoration of animal bodies. I need not dwell upon an hypothesis, with which you are infinitely better acquainted than I am. But now for the remedy.

The waters of the Schuylkill Falls, are, as I am informed, forty-four feet perpendicularly higher than the streets in Philadelphia. Tho' these falls are seventeen miles from the city. There has been an attempt to form a canal there, which for the present is laid aside. My project is, to form a subterraneous aqueduct from those falls to the city. This can be done, at comparatively a very small expense. A canal can never rise above the lowest level of any part of the

* The elevation of the river near Norristown, appears to be referred to. Eng.
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On channel, but an aqueduct, upon hydraulic principles, may be brought over any height not superior to that of the fountain from whence it draws. The canal must be on a level or declining by locks, and therefore must be sunk at great expense into hills and mountains; but three feet below the surface of the ground secures the aqueduct from the frost.

Six logs of hard pine, laid in a trench, each having a caliber of three and an half inches, and leading from a fountain of forty-four feet higher than the places of delivery, will issue 180 gallons of water each minute, 10,800 gallons in an hour, 279,200 in twenty-four hours. The logs being of a caliber of four and an half inches, will deliver double the quantity. This calculation may appear to be extravagant, but it is founded in an actual experiment which I shall mention. This quantity of water will supply your families, your factories, your cattle, your shipping, and answer the purpose of washing your streets, and sprinkling the sides of your houses. A perpendicular tube in the front of each house, may have a plug in the head or side of it. A tin tube with a head, formed for sprinkling, may be placed in it, in such a manner as to wash or cool the sides of the houses, and to wash the street. If the fountain is forty feet higher than the street, the tendency of the water to a level, and the force of a column forty feet high, will wash the walls of the highest house. I need not mention to you, the great advantage derived from the use of living or running waters.

The expences of this work, on a free and generous calculation, may be as follows.

Allowing one mile for circumstances of unfavourable ground, the whole may be eighteen miles in length. The logs ought to be ten inches diameter at the smallest end, and about fourteen feet long. The price will be five cents for each foot in length; multiplied by six will make 1600 dollars a mile; 18 miles, allowing for wastage, will be thirty thousand dollars—Digging the trench four feet deep, boring, and placing the logs, at 12 dollars a rod, will amount to 69,120 dollars, all added, makes 99,120 dollars. The other charges, such as reservoirs, gates, iron rings for the receiving logs &c. may raise the expense to 110,000 dollars.

The calculation as to expense, is from my own experience, in an aqueduct formed from a pond in Roxbury to Boston, five miles in length, which has been much under my care and attention, as president of the corporation to which it belongs: but the fame might be done much cheaper now. A machine is invented by a man in this state, which turns the log whilst the auger stands fixed. A log, turned by the force of a water wheel, is bored and fixed in seven minutes. The logs here were five cents a foot, but I conceive they may be floated down the Schuylkill and Delaware much cheaper. The expence of drawing them to the works will be considerable, but that I have included in the twelve dollars a rod for the work.

The quantity of water is calculated in this way—a log of three and a half inch caliber one mile from a fountain, and forty-eight feet lower than its surface, delivered 92 gallons in one minute. At five miles from the fountain the quantity was much less, but no experiment has been made to determine the quantity of diminution.

The quantity was not lessened by the aqueduct's passing a height, within ten feet of the level of the fountain, after it had descended forty-eight feet below it, but certain circumstances, incident to the operations, will lessen the quantity. There will be a check to the current from the roughness of the wood. The log next to the fountain must receive the succeeding one, this forms an interruption which creates an eddy.
and abates the force of the water—
ereasing, proportionably as you
proceed from the place of reception,
to the place of delivery. In Europe
they have leaden or cast iron tubes,
which obviate these disadvantages in
a great measure. The increase of
the diameter of the caliber will ren-
der these obstructions much less, but
as the logs must be longer, I believe,
that th'o' of three and an half inch
bore, though you have one third
more in number, would be preferable.

A reservoir on an elevated place
near the city will be necessary, be-
cause the water may be running to
that in the night time, when none
is used in the city. This may be
made of bricks laid in a cement com-
posed of one third lime, and two
thirds earth, called by the Dutch
Terras, and by the Portuguese Pas-
sellaro. This mortar I find, by expe-
riment, petrifies and becomes as hard
as stone when kept under water.
This earth is found on a hill in Saint
Eustatia, where there is the appear-
ance of a former volcano, and near
the burning mountains in Portug.
Perhaps it is the ashes of a volcano.

The whole expense of cross hori-
zontal tubes, leading through all the
streets, and the upright tubes, at
each house, added to the sum before
mentioned, may arise to two hundred
thousand dollars. The tax of five
dollars on each house, will pay a
great interest upon this capital. Nor
is this money lost, for the labour of
drawing a family's water from a per-
pendicular tube, in the kitchen, or
by the door, will be annually, more
than five dollars less, than drawing
it from wells, by pumps, or by other
machinery.

If I am misinformed in regard to
the height of the water at the falls,
yet it is certainly high enough to
water the city, and six logs* will be
enough to conduct it there.

Your candour will find an apology
for my intruding a tedious letter up-
on you. Should you be of opinion
*A trench containing six sets of logs.

that any ideas in it can be useful,
you will communicate it to whom
you please; but I could wish that
my friend Mr. Bingham might read
it, if you should shew it to any one.

I have the honour to be,
With great respect,
Your most humble servant,
J. Sullivan.

Doctor Barton.

Do Things in Style.

THERE are many new customs,
which have been but very lately in-
roduced, which we of the old school,
plain men like (perhaps you and) me,
find it rather difficult to adopt, prin-
cipally from the language made use
of by those who would recommend
them. Some apology indeed may be
offered for the introduction of new
language to express new things,
which the founders of our language
could not be suppos'd to know any
thing about; but as our authors of
dictionaries plod on in the old way,
and take no more notice of new
phrases than if they did not exist, it
falls hard upon us, who are somewhat
too far advanced in life to go to
school again, and whose organs of
speech, I am afraid, are not pliable
enough to learn a new language.—In
making my complaint to you, I know
I am pleading the cause of many
others in a like situation; but I am
afraid I may not make myself tho-
roughly intelligible, and must there-
fore use a descriptive kind of circu-
location, which you perhaps will be
able to make out with some diffi-
culty, but which your young readers
will catch by a single hint. Of late years, Sir, I find that what-
ever we do, we must do in style. Now
this doing things in style, being a
general rule, and applied to every
action of our lives, puzzles me very
much to find out its real meaning in
any one case. If we build a house,
we must build it in style. If we
furnish it, the furniture must be in
style. If we give a dinner in it, it
must