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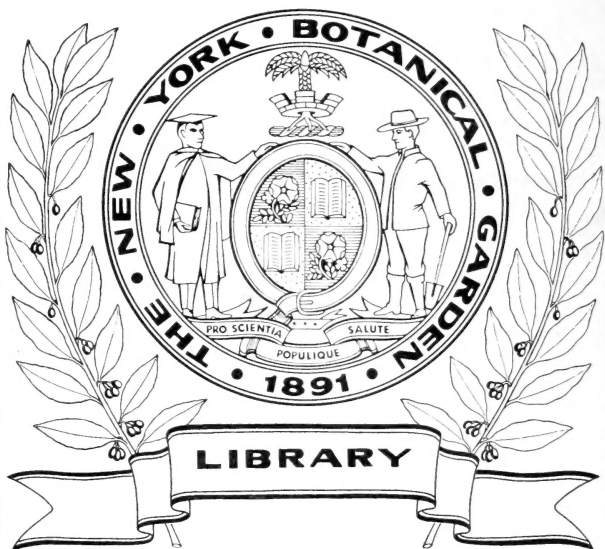
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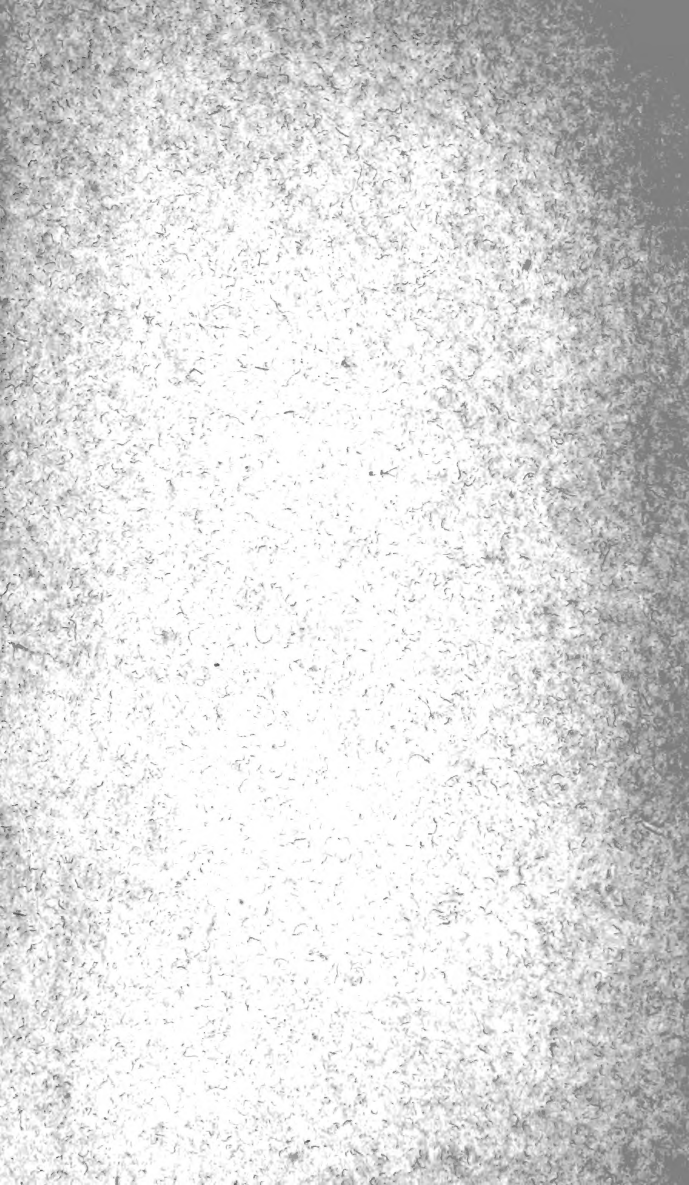
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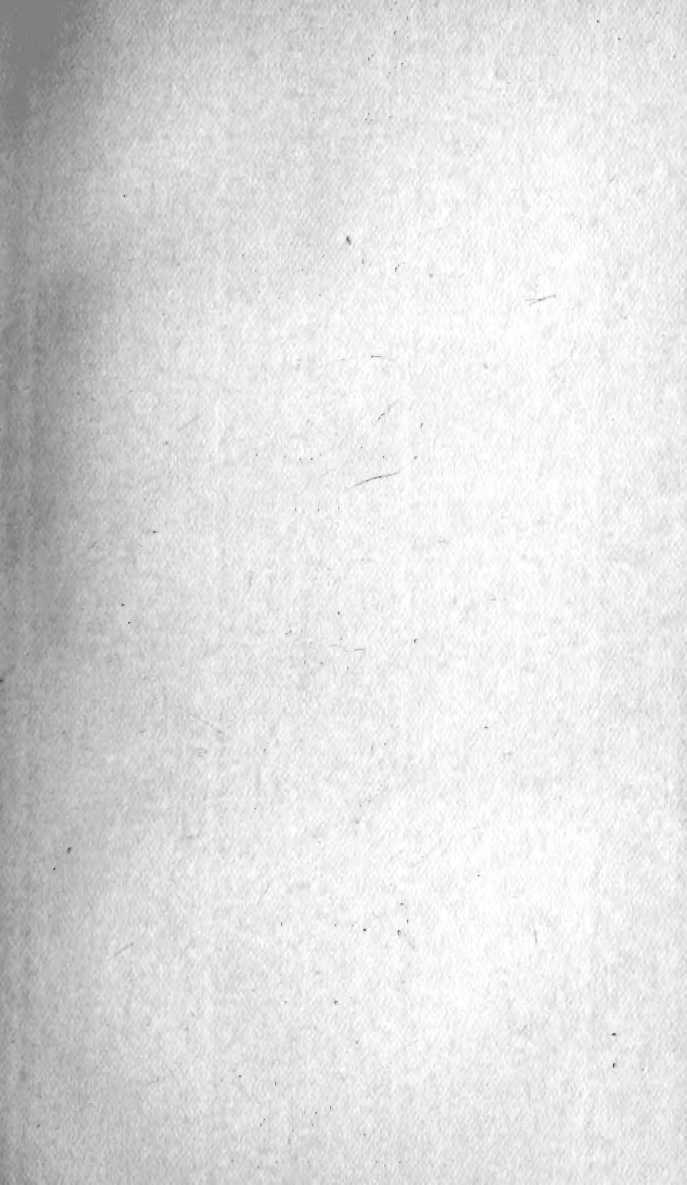
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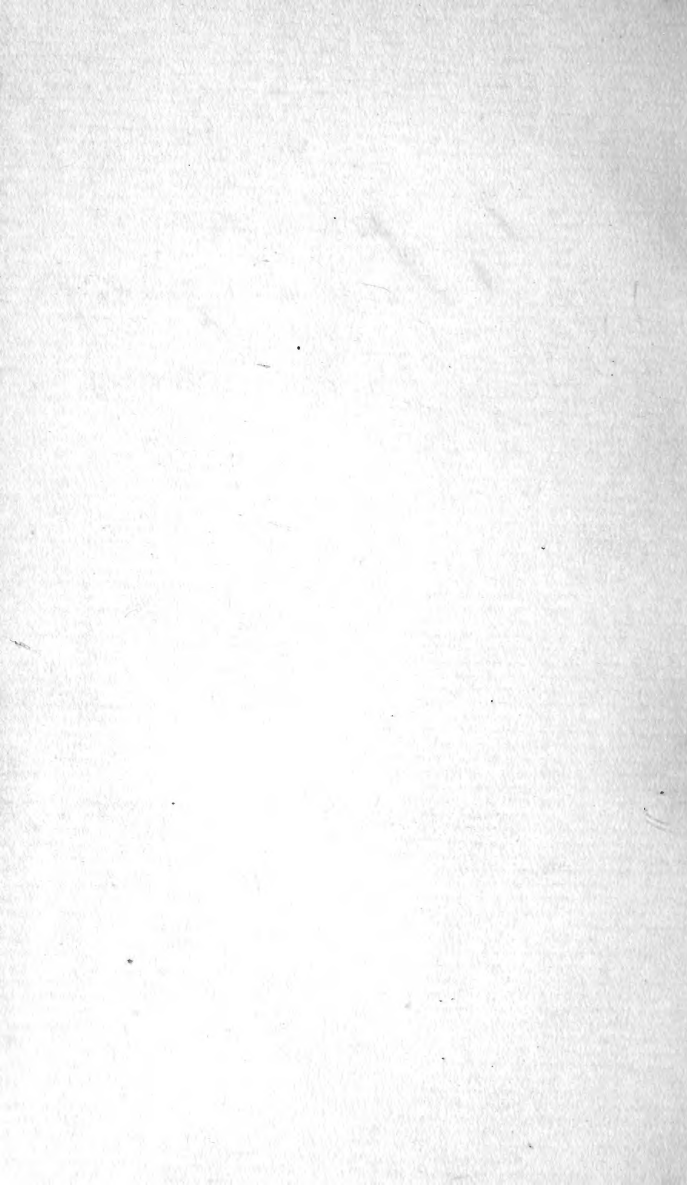
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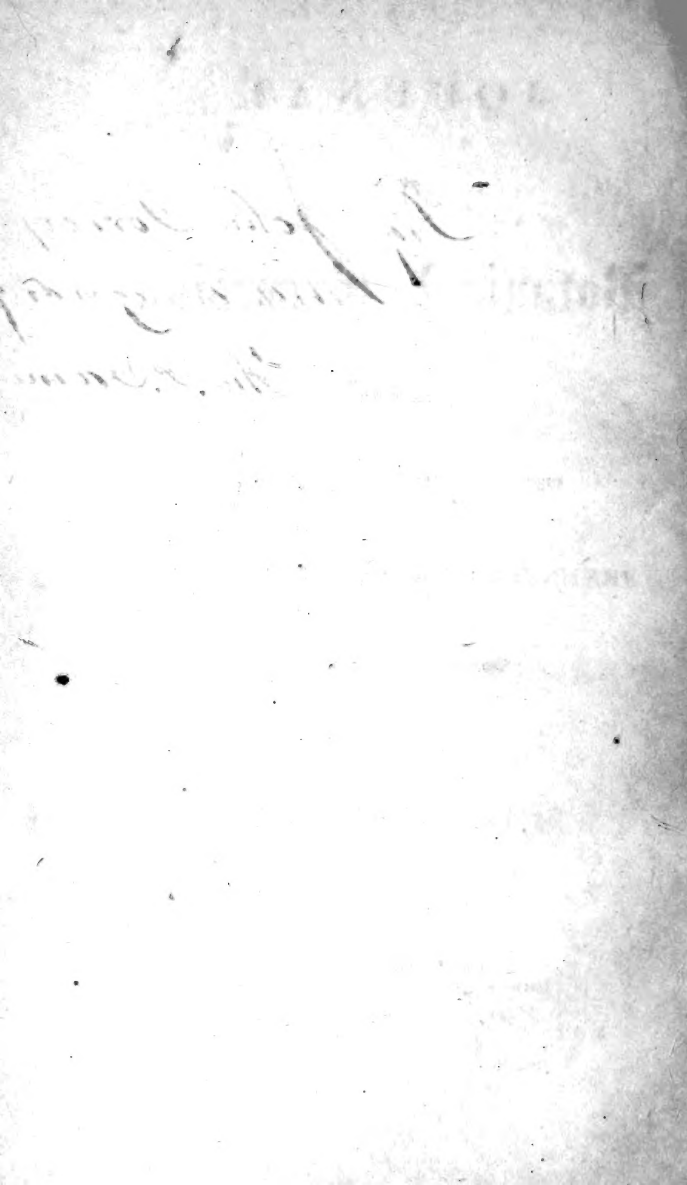




Prof. John Torrey
With the regards of
H. P. James



sent this leaf in



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JOURNAL

OF A

Botanical Excursion

IN THE

NORTHEASTERN PARTS OF THE STATES OF

PENNSYLVANIA AND NEW YORK.

(DURING THE YEAR, 1807.

By FREDERICK PURSH.

PHILADELPHIA:
BRINCKLOE & MAROT, PRINTERS,

1869.



C. 2

J. O. D. B. I.

Botanical Description

PLANT

SOMEWHAT OF THE ORDER OF

PREPARED BY THE AUTHOR

PRINTED AND BOUND BY

BY THE UNIVERSITY PRESS

1887

INTRODUCTION.

The manuscript Journal of the eminent botanist, Frederick Pursh, came into the possession of the American Philosophical Society, among some papers accompanying the herbarium of the late Dr. B. S. Barton.

An entry occurs on the first page of this manuscript, made probably by the executor of Dr. B., viz: "MS. Journal of a Botanical Excursion in the North eastern parts of Pennsylvania and in the State of New York. By an unknown person who appears to have been a German, & a friend of the late Dr. Benj. S. Barton.

Found among the Books of Dr. Barton after his death in 1817."

Being the acting Librarian of the Society, this interesting little volume has recently fallen under my eye, my attention was directed, to the following remark which occurs under date of July 20th, by a gentleman who had previously seen, and casually read, the manuscript :

"Mr. Geddes brought me to a deep valley, about one mile from his house, where we ascended a steep, very rocky hill; there large masses of rock seem to be piled up or tumbled over one and another in such a confused manner, that it has left large chasms between them, which sometimes appear like caves."

After enumerating a number of plants collected, he continues: "And what I thought most of, *Asplenium scolopendrium*. This Fern, which I don't find mentioned by any one to grow in America, I always had a notion to be found here, and indeed I was quite rejoiced to find my prejudice so well founded in truth."

And upon reading the observations of Mr. Paine, in the *American Journal of Sciences and Arts*, for September, 1866, on the discovery of the *Scolopendrium officinarum*, by Mr. Pursh, and connecting and comparing the two paragraphs, the paternity of the MS. proved to be that of Mr. **re** Pursh. But they are other confirmatory evidences of this fact. The *Journalist* relates, that he had written to Dr. Barton—had received letters from him on several occasions, conveying the means for prosecuting his explorations; and that he had consigned packages of plants to Dr. Barton from time to time.

To settle the point, reference is made to the following paragraph, in the Preface to F. Pursh's "Flora Americæ septentrionalis," p. viii :

"Within this period I had also formed a connection with Dr. Benjamin S. Barton, Professor of Botany in the University of Pennsylvania, &c., whose industrious researches in all the different branches of Natural History are so well-known to the literary world I was enabled, by the kind assistance of this gentleman, to take a more extensive range for my botanical excursions."

"The following season, 1806, (1807, evidently, —the labels on the original plants in the herbarium, also an entry in the MS, bear that date,) I went in like manner over the Northern States, beginning with the mountains of Pennsylvania, and extending to those of New Hampshire."

Having obtained permission of the Society, this Journal is now published.

The terse, quaint, simple and peculiar language renders it the more interesting. It exhibits the character of the man in the light of an out-spoken kind hearted person. To alter and anglicize its idiomatic phrases—to correct the many misspelt words, or change the structure of the sentences, would deprive it of half its interest. I therefore purpose giving it *verbatim et literatim*, and conceive the perusal cannot fail to please, amuse, and instruct.

Mr. Pursh was born at Tobolski, in Siberia, and was educated at Dresden. He resided in this country from 1799 to 1811, during which time he made various botanical excursions. He went to England and published his Flora, He returned to America, and while engaged in collecting material for a Canadian Flora, died at Montreal, June 11, 1820, aged 46 years.

THOS. P. JAMES

PURSH'S JOURNAL.

May 26.—Prepared myself for the journey, & but my things to the stage office, in which place I stayd over night.

27.—At 4 o'clock this morning we left Philadelphia, the stage being remarkable full of passengers & goods, which made it very disagreeable travelling; the road about 25. m. from the city got bad & hilly; we brok down the stage twice, but lukyly without any injury to us; arrived at 10 o'clock in the evening at Easton. Took up lodging at Abraham Horn's Sign of the Golden Swan. All this day I dit not observe anything in flower what I had not seen about Philada.

28.—The cramp ride in so full a stage, & the unaccustomed shaking of the body by the bad, rough roads made me feel more sore & stiff as I would have been if travelled on foot. I delivered my letter to Judge Wagener, who promised to give me all assistance in his power. Crossed the Lehigh and ascended a very steep rock opposite the town; vegetation here seemed to be somewhat later than at Philada. In flower, *Sisyrinchium mucronatum* Mx.; *Azalea nudifl.*, *Cornus Florida*, *Cerastium vulgatum* & *glabrum* P., *Carex*, 2 or 3 species; *Arabis lyrata*, *Veronica arvensis* & *serpyllifolia*, *Arenaria serpyllifolia*, *Senecio obovatus* Muhl., *Viola palmata*, *pedata*, *cucullata*, *Erigeron pulchellum*, Mx.; *Krigia Virginica*, *Phlox subulata*, *Geranium maculatum*, *Oxalis corniculata*, *Potentilla reptans*. This plant I never could satisfy myself about its species; it grows very common about Philada. on dry hills.

The hills about here are generally covered with Hemlock Spruce and Cedars, mixed with Oak. Beginning to flower—*Hydrophyllum canadense*, *Arenaria setacea*, Muhlb.; *Scandix dulcis*. Out of flower—*Mitella diphylla*, *Arabis falcata*.

On a walk up the Lehigh I observed nothing remarkable,—a few trees of the Nazareth *Quercus macrocarpa*, on a hill about two miles from town.

29.—Took an excursion up the Bushkill Creek. Observed the former plants, together with *Aquilegia canadensis*. *Senecio obovatus* very frequently occurs here without ray, & seems to be at first appearance a different plant. *Cratagus glandulosa*, *Oxalis violacea*, *Convallaria polygonatum*(?) & *racemosa*; *Hypoxis erecta*, a species of *Silene*, *Lithospermum arvense* in great plenty; a species of *Viola* with very long spur, not described, but if I am not mistaken I have seen this plant in the collection of Mr. Hamilton among the rarities of the mountains. In the same range of hills I observed another species, a much taller plant & the spur shorter and thicker, which I supposed to be the *V. debilis*, Mx. The banks of this Creek are covered with Hemlock, Oak, Hickory, and here and there, *Betula lanulosa*. I found a few bushes of *Dirca palustris*, which I did not expect here. The banks are covered with *Cacalia reniformis*—*Hypoxis erecta* in flower.

30.—Mr. Wagner was endeavoring to get me an opportunity of getting my trunk forwarded beyond the Water Gap; about noon we found a wagon going that way & I sent it off, intending to go to-morrow the same rout. After dinner I

took an excursion on the Yersey side, but observed nothing new. I ascended two very steep rocks below Easton near the river, which convinced me so much more in my Idea which I had made before, of the River Delaware having been of a much larger size in former ages than it is now. The bed of the river is plainly seen, & the fields on the east side are covered with rounded stones, similar to a river getting dry ; those fields may extend about half a mile, & in some places a mile & a half, & are about from 20. to 40. feet higher than the highest fresh now showing. The rocks I had ascended seem to have been Islands nearly in the middle of the old river, & have all the signs of their sides having been washed upwards of 50. feet high from the water, if not a great deal more. These rocks are covered with ferns of the common sorts, & shrubby trees common to this neighborhood. The view from those rocks is most charming—the neat town of Easton with its surrounding hills, the junction of the Lehigh with the Delaware, on the last of which an elegant new bridge has been erected on the same plan as the one over the Schuylkill at Philadelphia. & the view of the distant mountains over all this is most charming.

31. Early this morning I left Easton, the weather very sultry & warm ; by the time I came to Richmond, about 13. m. from Easton where I took dinner I was overtaken by a thunder shower, which continued very severe for two or three hours, & afterwards turned into a drizzling rain ; being prevented so long, from going on & having about 13 or 14. m. to travel to come to the place

where I had sent my trunk to, I thought it best to stay over night & take my leisure in going through the gap, which I was very anxious to examine strictly. On my road to Richmond I observed nothing new. The *Podophyllum* was in full flower. The road goes all the way over barren and dry hills, producing the same plants in general as near Philada.

Jun. 1. When I got up, I found it very cloudy, with drizzling rain, after breakfast it looked somewhat better, I took the road, but I had not went past 4. m. it began to rain again pretty hard ; about two miles farther I came to a publick house on the River, where I stood for some time to get dry & let the rain over, wishing very much to come to my trunk beyond the gap, I ventured out again, at the distance of about 2 miles the road began to get interesting, being on the foot of the mountain, which forms the Water gap ; But I was very much disappointed in my intention of spending a good part of the day here, the rain begining again very hard, I had to make the best & the quickest of my road, I observed nothing new, a species of White Violet with deep cordated leaves I think I have seen before ; on the rocks I found *Nephrodium lanosum* Mx. & *Spiræa trifoliata* for the first in flower this season ; a species of *Erigeron* is very plenty here, but suppose it nothing else than *E. purpurascens*. The scenery of this gap did not answer my expectation in grandeur ; the mountain makes a very spacious opening for the river & the declivity of the rocks & hills on both sides are not steep, but very gradually descending, so much

so that I thought I could ascend it in any place required. Since I had to be in an hurry, on account of the weather, I determined to return some day this week back to it, & have an attentive examination, I arrived after a short but disagreeable day's travelling at Mr. Houser's where I found my trunk safe; This place is about 2 miles from the gap, & I have chosen it for a place of making my stand for excursions in this neighborhood, as long 'as I think it worth my while.

2. This morning still rainy; about 10 o'clock it seemed to clear off; took an excursion on some of the hills, & along the Smithfield creek; *Ranunculus philonotis*, *Anemone thalictroides*, &c. in flower; on the creek I seen the *Acer glaucum* with its seed shed; this maple seems to be a different species, though in general taken as a variety. *Justicia pedunculosa* in great plenty, just sprouting up. The sandy banks covered with *Equisetum hyemale* & *arvense*, *Scrophularia nodosa*? (flowering).

After dinner I took an excursion up the Delaware on the road to the Manysinks; I begin to despair of getting anything interesting in this quarter, even the plants common to the banks of Schuylkill which are any ways interesting? I dont observe here, it is an arid slate & lime stone barren; though very finely timbered.

However I expect to try to morrow the gap again, if the weather will permit it.

3. This morning I set out for the Gap; I ascended the west side of the mountain in several places, to have the advantage of all kind of situa-

tions, but my expectations of this place, were still disappointed ; A very rapid run which makes beautifull little cascades, & nearly rises at the top of this mountain was the place, were I expected to see something new ; but after all pains & trouble, I found it to be the old story again. I made the following list of all the plants in their order as I observed them. The *Geranium Robertianum* is the only plant I think not common, it grows in great plenty on wet rocks & makes a very handsome appearance. The banks of the river are covered with Hemlock, Black Birch, Beach, Chestnut, Hickory, Walnut, *Carpinus*, Oaks, &c., in great variety & the sides of the hill with the same kind of timber in proportion to their more or less fertile soil. I found in full flower *Potentilla reptans*, *Rubus trivialis*, *Geranium maculatum*—*Fragaria virgin.* *Viola palmata*, *Erigeron bellidifol.* *Cerastium vulgatum*, *Arabis lyrata*, *Sanicula marylandica* (b.) *Menispermum canadense*, (b.) *Ranunculus abortivus*, *Houstonia cœrulea*, *Spergulastrum lanuginosum*? Mx.; *Rubus odoratus* (b.) *Aquilegia canad.* *Heuchera americ.*, (b :) *Oxalis stricta*, *Myosotis virgin*?—*Veronica agrestis*, *Oxalis violacea*, *corniculata*, *Hieracium venosum* (;bf) *Rumex acetosella*, *Cratægus coccinea*, *Leontodon Taraxacum*, *Anemone thalictriodes*, *Aralia nudicaul.* *A. racemosa*, *Smyrniium integerr.* *Panax quinquefolia* (b.), *Medeola Virgin.* three of the stamina, which are placed alternate with the inside petals are longer than the three which are opposite them. The three side stigma is sessile.—*Poa trivialis*, *viridis*, *compressa*, *Elymus cana-*

densis without flower. In seed—*Thalitrum dioicum*, *Sanguinaria*, *Saxifraga virginensis*, *Betula lanulosa*, *Mispilus canadensis*, *Acer glaucum*, *Gnaphalium plantagineum*, *Arabis falcata*, *Azalea nudif.*

Without flowers—*Rhus typhinum*, *radicans*, *Verbascum Thapsus*, *Rubus* sp; *Actea racemosa*, *Clematis virginica*, *Ampelopsis quinquef.*, *Allium cernuum*, *Eupatorium perfoliatum*, *ageratoides*, *Rosa*, *Hypericum perforatum*, *Collinsonia*, *Impatiens*, *Marrubium vulgare*, *Sambucus*, *Mentha*, *Lysimachia quadrifolia*, *Prenanthes*, *Kalmia latifolia* (b.) *Rhododendron maxim.* *Veronica virg.* *Ptelea trifol.* *Spiræa salicifolia*, *Sonchus* spec. called Lyons heart good for the snake bite, taken in milk. The species of ferns I observed were *Nephrodium thelypteroides*, *acrostichoides*, *marginalis*, *lanosum*, *bulbiferum*, *punctilobulum*, *Filix femina*, *Adiantum pedatum*, *Polypodium vulgare*, *Asplenium trichomanoides*, *Trichomanes*, *Osmunda interrupta*, *cinnamomea*, *Pteris aquilina*, *atropurpurea*, *Onoclea sensibilis*, *Marchantia* a species new to me.

I went three miles beyond the gap and as I found it useless to clime up the mountain any longer, I thought to pay all attention to the situation of the gap & its turns in my return accordingly after taken some refreshment at Dills's ferry I followed the main road through the gap; this ferry is three miles from the mountain.—About here the River runs from N. N. W. (the direction of the River were taken with a simple small pocket compass, not noticing the variation). The banks high & the ground covered

with loose stone mixed with rounded off pebles of all sizes. The Yersey shore seems to be lower & not much broken. One mile further on from the ferry a chain of high hills comes at some distance towards the shore, on both sides of the water.— Two miles from the ferry the shore very steep covered with Rhododendron &c. great quantities of loose stone worn by the water. The chain of hills draws closer to the water, about three miles from the ferry, the gap begins ; the kind of bottom land which lays between the water & the high hills, is of a barren slaty nature, mixed wite rounded pebles. A considerable large Island, lays at the mouth of the gap ; The River runs more from the north ; The main ridge of mountains, through which it breaks is about a mile over, & the two faces of the mountain in respect to their strata quit corresponding. Those strata make about an angle of nearly 45° from N. W. to S. E. & consist of indurates lime stone granit. Within about 40 yards apparently from the top, the face of these rocks is rotten slate ; which cuts off on both sides into a straight line ; this slate can not lay under granit, but must have been a vain, on which the water worked & made the present bed of the River.

[The diarist here gives a rough sketch.]

After passing this place the side of the mountain forms the banks of the river & an artificial road leads along the steep banks, the river soon after has its course more from the N. W. & keeps in this direction more or less for a mile & a half, where an island is by which it turns more from N. After passing 2 miles along this close moun-

tain road, the valley opens, into a kind of a bottom terminates & surrounded by hills & the river which keeps now close to the main ridge receives several large creeks coming from all directions. In this bottom is the house of Mr. Howser where I but up at ; it is called 6. miles to Dills's ferry, from where I began my description.

Jun. 4. This day I made some small excursions about the neighborhood of Mr. Howsers— Having been pretty much fatigued yesterday, & intending to go to Minisinks to morrow, I did not do much ; but even the little I was about convinced me more & more that this were not a place for new discoveries. The Ideas which I have allways formed about the valleys beyond the blue ridge of having been large rivers or lakes, still I come with more proofs to my mind ; the water gap, which probably has been a large cascade in former ages, & the country behind it, have so much weight in this conjecture as any I know ; a well which old Mr. Howser dug about 40. feet deep, the house standing on an elevated spot may be 80 or 100 feet above the river was found to be entirely river sand, which still can be seen on the bank raised therewith.

Jun. 5. This morning I set out on an excursion up the River, I had to call on a man who took my trunk from Easton here, who had told me, that in his neighborhood there was a very rich valley ; I went through it, to his house about 8. m. from Howsers, but observed nothing materially new ; a species of *Ranunculus* with very long limber branches, which I suppose to be the *R. repens* & a *Viola* like the *debilis* of

Milchx ; which grows near Mr. Johnes's mill in Blockley. At the house of Mr. Coolbaugh, the man above mentioned I took dinner & a man coming in who wanted to go as far as the beginning of Minnisink that night, I availed myself of the opportunity of having company, to get there this night yet. We had about 19. or 20. m. to come to the place of his destination, it being one o'clock when we left the tavern, & yet we reached it before it was quit dark ; when we came within 6. or 7. m. of it it began to rain very hard, but we kept travelling on. The Minisinks I first understood were on the Pennsylvania side, but there is no such thing ; the country calld so lays in Sussex county New Yersey & extends from the New York line about 16. or 18. m. down the river & about from 3 to 11 m. back. This course I seen nothing new, the hills along the road are covered close with timber & *Cimicifuga Serpentaria* (*Actæa racemosa*) *Aralia nudiflora* & here & there patches of *Podophyllum* here called Mandarach mixed with abundance of *Houstonia cærulea* & other common plants of similar situation are the only cover of the ground. We crossed the river at dark & took up lodging at Mr. Ennis's, who keeps a ferry & a house much frequented by the raftsmen. It looked very much for a heavy & settled rain.

Jun. 6. Rain all day, my anxiety of seeing this place was disappointed for to day but being pretty much fatigued, I expected that the disagreeable rest I had in a house I did not much like, would still be so much more to my advantage ; I slept most all day.

Jun. 7. Sundays. Set out for an excursion up Delaware through the Minisinks. Following nearly the banks of the river, without road, I expected to see something interesting — but nothing occurred to me. In several places the *Salsola prostrata* grows in the sands, *Cistus canadensis* beginning to flower—I went up as far as the line of New York. Crossed the River & went down it to a small village called Millford here I stood over night.

N.B. The soil through this part of Minisink is similar to the lower part of Yersey. The banks are covered with Silver or White maple, *Prunus virg.* *Tilia americana*, *Platanus* & Chestnut Oaks, *Humulus lupulus*, *Celastrus*, *Uvularia perfol* : in flower.

Jun. 8. Shortly before I left this to return to Ennis's down the river I learned that a Post office were kept in the tavern I had stopped : I wrote a few lines to Dr. Barton to inform him of my progresses in a few words : I set out from here, along the banks of the river on a very interesting road, going sometimes along a precipice of immense height down to the river. Millford lays on Saw creek, 1. below a small creek call'd White brook ; 4 or 5 lower down the Connecheague 6m. lower Reamannskill—from there to Dingmanns bushkill—along the river hills *Tragopogon virginicum*, a very handsome coloured plant, *Scrophularia nodosa*, here I took an excursion up through the mountain which are very high here : The berries of *Gaultheria* ripe, very good eating. On the highest knob which was exceeding barren I found *Lycopodium rupestre*.

The *Pyrola umbellata* call'd here Princess pine—*Cistus canadensis*. In descending the top I came to plenty of *Kalmia angustifolia* & soon after to a springy piece of ground which led me to a stream of water, which finally forms a beautiful Cascade which I admired so much the more as I was very dry & the water most excellent. A great abundance of the different sort of ferns & mosses common to wet shady places cover the rocks & *Arum triphyllum* in full flower, with several other common plants. At Dingmanns I crossed the river over to Ennis's where I after a long & fatiguing journey arrived late in the evening. This day I killed a monstrous large snake, which I seen likewise in Virginia call'd there Black Viper, here they call it blowing Atter, it is not common but I was not able to examine it, partly for want of time & chiefly on account of the most horrid smell it emitted, they are said to be very poisenous but on opening the mouth, I could not observe the structure of that kind in her teeth.

Jun. 9. After breakfast I took to the road on my return to the water gap; going the same route as I had come up the River, the day exceeding warm & the fatigues of yesterday made me feel it so much more. I took my course several times up the water courses to the mountains, but observed nothing interesting; I arrived in the afternoon at Hellers on the Bushkill; here I stood over night, from this place I would have to turn off to the beach woods, so I inquired for the route, but could not get any satisfactory information; I had to return to Howsers on the

Water gap to sent off my trunk from there, so I expected to find information by some body there. All the country about here is nothing but heaps of mountains interspersed by small streams of water, some of them so wild that there is no access to them the vegetation generally the same as near Philadelphia.

Jun. 10. About noon I arrived back at Howsers. Rested myself for the rest of the day, to make myself ready to set out for the beach woods to morrow. Packed up my trunk & made up my wallet to be ready to be absent from my trunk for some time, at least untill arrived at Tyoga.

Jun. 11. I had to wait for an opportunity to sent my trunk back to Easton having no chance of sending it from this place to Tyoga ; about noon a wagon arrived to go to Easton, with which I sent it oft; & immediately after, set out for my journey. After ripe consideration & being not able to get any good information about the route through the beach woods from above the river I concludet to take the route to Wilkesbarre ; being besides informed to meet with a great part of the route that way, similar to the beach woods and to have to pass the very high mountain Pokono, which abounds in large swamps, I thought it the best to take that route. I travelled along side a ridge of hills & mountains having a pleasant cultivated valley, bordered by the blue ridge to my left hand ; I only travelled about 12 m. to Shafer's tavern, where the road from Easton comes in.

The valley along the ridge, though only watered by little springs now, seems to have been

a bed of a very fine large river, which probably entied itself through the wind gap; all the stone found about here are roundet off, by the rolling in the old bed of this large river; & even large rocks of several yards diameter have the mark of having been worked upon by the water.

12. I left Shafers early in the morning though it being very cloudy, I expected it might clear off; but having gone a little ways it began to rain & I was obliged to take shelter at another public house only 3 m. distance, call'd Huths, It formed itself into a rainy day altogether, & having procured an old toren map of the tract of my journey at Minisink which I found would all fall to pieces immediately, I betuck myself to making a copy of it which occupied me nearly all day.*

13. Still rainy; but after breakfast it beginning to look likely for clearing oft; I went on toward Pokono mountain, only 6 m. distance. Frequent showers interrupted me all the way; When I came to the foot of the mountain I observed the *Kalmia latifolia* beginning to flower, In a wet meadow *Senecio aureus*, *Stellaria graminea*?

* This veritable copy of the map, with the route traced upon it by Mr. Pursh, has been presented to the American Philosophical Society, by Prof. A. Gray, to whom it was given by Prof. Tuckerman, of Amherst College. This gentleman, attending the sale of the Botanical Museum of the late Mr. Lambert, purchased two collections of American plants:—one of which contained Pursh's duplicate specimens; and among them, this map was found. A singular incident where things are brought together after a long period of separation: in this case, a term of 60 years has elapsed,

decandria 3 gynia petalis bifidis—Remains of *Trillium erythrocarpum*, *Diervilla*, — leaves of *Dracæna borealis*, *Pyrola rotundifolia*—without flowers —*Anemone nemorosa*, *Orchis bifolia*? I only found one specimen, though I searched for more, of this singular species of this tribe, but I expect to find a chance for more further on. The ascend of the Pokono lately has been turnpiked to the top, where they are still going on to meet the turnpike through the great swamp. I observed nothing particular, but coming to the barrens in the top, I soon found *Cornus canadensis* fl—*Rhodora canadensis* grows here in great plenty & might easely been taken for *Azalea* when out of flower, it nearly is done now flowering: *Trientalis* sp. I begin to doubt of its being the same as the European. This country being so high a spot, I thought it worthy of making some stay here, to have a full examination of it ; accordingly I took lodging at a small hut, newly erected there for the accommodation of travellers. After taking some refreshment I took a walk towards the pine swamp.

Those swamps as far as they are accessible are full of wet holes filld with *Spagnum* & other mosses, between which the *Cornus*, on high hillocks shows its beautifull white flower : *Trientalis* in great plenty—here and there a plant of *Polygala grandiflora* Walt. fl—*Panax 3-foliata* fl. *Rubus Dalibarda*, *R. saxatilis* ?—fl. the *Helonias erythrosperma* Mx. very frequent in more dry situations—just now drowing up its flowers,—they call it here Unicorn & say it poisens cows & other cattel. A species of *Trillium*, which I

think has not been taken notice of by Michaux, & which I call *T. pictum*, on account of the beautiful red stripes which the petals are marked with on their base, grows all over these swamps. *Kalmia angustifolia* is natural to these grounds, either wet or dry. It is just beginning to flower. A species of *Viburnum*. In a small run *Chrysosplenium oppositifolium*. — *Thesium corymbulosum* fl. *Vaccinium disomorphum*, *resinosum*, *stamineum*, *pennsylvanicum* in full flower. I observed a species of umbelliferous plant very common here, which seemed new to me. Leaves of *Epilobium angustifolium* as I supposed.—Before evening I found in a very boggy wet piece among the shade of bushes a species of *Convallaria* entirely new to me : It has a raceme of sparsed white flowers, & from 1 to 3 leaves on the stem, its roots go through the spagnum & mud to such a depth, that with all my endeavors I could not get one wholly out of the ground.

Jun. 14. In sight of this house there appeared a high mountain or knob, called Bimble hill, which I was anxious to ascend, it being only at a small distance from the place I stood at ; the landlord & another man made up parthie with me with their rifles, to go up to it & from it to the ponds, which are at a small distance from here ; in ascending the mountain I observed nothing new, the sides & top are composed of a thin soil over loose stones & rocks ; I found on moist places the *Cornus canadensis* up to the very top. *Dier-villa* & the common mountain Gooseberry grow among the top rocks though the country being

so very high I did not observe the *Sorbus* or *Sambucus pubens* common to such places. On the N. W. side of this mountain several deep holes, like wells, some of them above 30 ft. deep, have been observed by the hunters, we were in pursuit of them, but could not find them, none of the company ever had been upon this mountain. The *vaccinium stamineum* was here in full flower in great abundance.

After having spent sometime in examination of the top. we descended on the E. side to get to the ponds & Cranberry marshes ; In coming near to the foot of the hill I observed strong plants of the umbelliferous kind above mentioned which soon persuaded me to be nothing else, but the *Aralia hispida*, though I don't know this plant, having never seen it, but the habit, shows this to be a species of *Aralia*, the people call it here Swamp Elder.—Coming down near the ponds I observed several of the former mentioned plants, & for the first time in this neighborhood the *Epigæa repens*. In crossing the main road I observed among the washed stones a kind of black lead ore, very heavy & but little apt to blacken the things, rubbed with it, probably lead may be found in this part, if searched for diligently.—*Dalibarda fragaroides* out of flower grows very frequently on mossy hillocks in company of *Mitchella repens*—& very often *Helleborus trifolius* when we came to the ponds & cranberry marshes all my attention was paid to the plants of the spagnum places. These marshes are covered with a thick coat spagnum, floating in a manner on a more or less watery mud, which easily gives away & let you

sink through one to four feet deep ; below this a yard and sound bottom is found, which makes those places somewhat different from those, of a similar description, I have been used to see ; At first I was somewhat timid, to go through, for fear of sinking deeper in, than I would be able to get out again, but finding so solid a base we went on from one side to the other without any danger: the Cranberrys of last year's growth, were now in such a condition to make a very agreeable & pleasant repast : I never thought to eat so much of this fruit raw, as I did this day.

On the edges towards the water, the *Orotium aquaticum* was in full bloom, which I suppose has been done flowering long ago in the neighborhood of Philada., amongst the Cranberry patches the *Sarracenia purpurea*, was beginning to flower—further oft, & more near to the dry ground the *Andromeda pulverulenta*, & still more farther back from it the *Kalmia angustifolia* made very thick & low covers of the ground :—Here & there I observed some of the *Larix americana* call'd here Tamarack tree—& a great deal of that kind of Pines call'd here double spruce ; for want of descriptions I can not recollect which it is.—Several species of *Carices* grew among the moss—& in the ponds itself the *Nymphaea lutea* began to show its flowers.—Those ponds unite their water & fall down Pokona to furnish one of the branches of Lehigh river. This mountain seems to be a good deal higher than the blue ridge & its vegetable productions show the relation of its climate, with that of Canada, I dont know whether *Rhodora canadensis* has been

found nearer to Philada. than this place but I almost doubt it has.

15. I intended to leave this, this morning, but it set in for rain, which made me give up the Idea of leaving it this day : I wrote on the letter for Dr. Barton & finished it so as to have it ready, if any opportunity of sending it on, should offer.—About noon it looked for clearing off ; I took the road, but was soon overtaken by heavy showers which obliged me take up lodging near Tobyhannah creek—Before I arrived there I fell in company of a gentleman on horseback going to Easton to whose care I intrusted the letter, finished this morning, desiring him to be so kind as to but it in the post office there.—Nothing remarkable seen all this day ; as I descended down Pokono, gradually the plants, so interesting to me there left me, one after the other, & only more common Pennsylvania plants made the cover of the ground.

16h. The morning promising a fair day, I was anxious of seeing the great Wilkesbarre swamps, after entering it, I soon found, that I would have no more chance than just to walk the main road, which is generally made artificially with logs & ground on it ; the *Tiarella cordifolia* grows here in great plenty ; now in full bloom. I observed a white violet, similar to the one seen in the Water gap, but near to it & seemingly connected with the stolones of this, I observed leafs & roots of an other species with very large & thick leaves, quit different from the one mentioned. Here for the first time I seen the *Oxalis acetosella*, as I supposed Michaux calls it, this

very handsome flowering species seems, to the best of my recollection of the same plant in Europe, to be quite another thing, the flowers of this species are far larger inside white, outside purplish, sometimes quite purple both with dark purple stripes, which terminate near the base of the Lamina in a yellow eye ; The flowers of the *O. acetosella* of Europe are clear white without the stripes or the yellow eye, & far smaller as far as I recollect, the leaves may be the same shape, but as I suppose the specimens of Michaux were compared in a dried state & likely bad ones, with the European sort, made the error.—*Tamarix glauca* and *sempervirens* in full flower :—The ground in any open place is covered with different species of Fern, *Osmundas* & *Nephrodiums* of the more common kind.—I did not observe any of the *Cornus canadensis* here, until I had crossed the Lehigh, when I met with a few plants of it, & the *Convallaria bifolia* in full bloom, Here I likewise observed the *Azalea nudiflora* yet in full flower, which is done, almost everywhere else. The *Trientalis* is here in a larger & more European like shape, than I seen it at Pokono.—The chief timber of this swamp is as far as I could see is Hemlock mixed with water beach (*Carpinus*) Aspen &c. I think even if I would have taken the trouble to penetrate for some distance into it I would not have found any thing more interesting, as I seen along the main road, with but very little deviation from it, now and then, when chance & opportunity required or allowed it. Late in the evening, after crossing several very high ridges, I arrived at Wilkesbarre,

& took up my quarters at Mr. Fells.

Jun. 17h. Wilkesbarre lays in a most charming situation, the rich and spacious bottom, which the mountains from here, on the Susquehannah is indeed picturesque—I have not seen a town in Pennsylvania so pleasantly situated, as this is. Harrisburg on the Susquehannah is the nearest to it ; but by no means equal in every respect ; the newly opened turnpike to Easton, will bring the trade of the upper part of this river into the Delaware, as the land carriage of all kind of produce will be easier, than the very difficult water carriage down the River.

Early this morning Mr. Fell, who had got an Idea of my pursuits introduced me to Mr. Jacob Hart an acquaintance of Dr. Barton, who expected to see a letter in my hands directed to him. Mr. Hart told me that he at his journey to Philada. had heard of my coming to that place, & offered me very kindly all assistance in his power, to forward the intend of my journey. I soon got into conversation with him about the petrefactions of shells & he proposed a walk along the river where he would show me plenty, Accordingly we took a walk about 10. o'clock : The impressions of the shells are plentyfully in a kind of loose Iron Ochre stone, it is the nature of slate & opens almost any way, you would wish, some of the shells are very well preserved, while others fall to pieces as soon as opened.—I layd by some of the best specimens as I intended to have an other walk along the shore, on purpose to collect some : On the rocks here I observed a species of *Galium foliis quaternis liniari lanceolatis, flor-*

ibus albis—which I for the present call *Galium Mollugo*, though I think I am wrong in the name : I never seen this plant before, excepting in dried specimens in the collection of Dr. Barton. In going up the river we came to a bed of coal, which points out close to the edge of the water.

Mr. Hart observed, that there was an open Coal pit at about 2. m. from there, & if I choosed we would go to it ; this was as welcome an offer to me as could be. We crossed Millcreek & turned off from the river.—In this walk I found *Convolvulus spithamaeus*—*Asclepias quadrifolia* & *Gratiola officinalis*, in full flower. In crossing Mill creek & coming up the hill by the saw mill, I observed on the slaty gneis a good many signs of copper, being in this neighborhood ; the bloom of vertigriss showed itself in several specimens of stone & altogether the stone seemed to be of the same kind as that near Mr. Hughes' Iron Works at Antietam in which place copper has been found. We at last arrived at the Coal mine, the sight of which, I admired more than I could have expected ; It lays in draught or hollow, where one of the faces of the stratum of coal has been opened, by a little stream of water running with great swiftness alongside of it, & down a deep hollow by a kind of cascade. The face of this hill or stratum of coal is about 26 feet, from the surface of the ground, to the level of the little run ; the coal begins about 3 feet below the surface & its stratum goes below the level of the run ; so that it may be judged to be a bed of coal more than 30 feet thick, & probably more strata below

this, as it is even in this solid thickness very often interspersed with a layer of coal slate, or more properly premature coal.—The blacksmiths of this place make use of it principally, & like it for their work very much & I expected if the mine was to be opened coal of a fare superior kind, than it is used now, might be found.—not only in this place & along the river as I stated before, the vein of coal has been observed here, but in almost every place in this neighborhood. A very mighty bed of it, seems to lay all through this bottom & along the ascend of the mountain, which in a future period will make this place very rich & convenient for fuel. In examining this place a particulare impression on the slate, near the place where the water runs down a deep hollow, struck my eyes very much : it appeared but very slightly & seemed to be worn away a great part by time & water : these impressions were very little sunk in the slate & about 8 or 10 inches wide & from one to three feet long, marked throughout by very regulare rows of deeper excavations in a diagonal direction. I observed 4 or 5 of these pieces of impressions close to one another laying in an irregulare direction.

These impressions but me in mind of the large stone in your possession with the net form'd impression which we supposed to be a species of Cactus; but those here are not exactly the same figure but as regulare : I had a great wish to get a piece of this slate out but as I had no tools I determined to come out again, provided with tools & plaister of paris that in case I should not succeed in getting a piece of stone, to make a kind of a cast

of it.—This day was exceeding warm, in the afternoon we arrived back to Wilkesbarre, having made a tolerable long excursion ; I observed nothing new in vegetation excepting the above mentioned plants in flower & some others most common everywhere.

18.—Having had a very restless night, & feeling very undisposed this morning I kept in the house all day, resting myself ; I apprehend a large drink of very cool butter milk, which I took yesterday, when very warm has done me a good deal of injury ; colik made me to keep the bed in the afternoon, connected with a feverish heat, which alarms me very much.

19.—This morning I still feeld very sick, & without any apeteite for eating ; I vomited frequently very heavy, & got so weak, that I expected nothing else, than to be laid up alltogether. But still I thought that exercise, if I could stand it, might do me more good, than to nurse myself, I got a hammer & chissel & some plaister to go out to the coal mine, to see if I could get some of that impression. Mr. Fell the landlord, dit go with me ; he is a man of some learning & observation, his company was so much more usefull to me. When we arrived there, I set to work but was not able to get a piece of a square inch entire out, it being so very brickle that it flew in small fragments ; I made a paste of the plaister, & cast a good large piece, main time that were a drying we lookd about the place for more curiosities ; after climing down the deep hollow, below the rock where the above impressions are on, we found the bed of the brook full of fragments of slate, coal

and other stone ; amongst these we soon observed numerous impressions of vegetables ; some pieces of this slate consisting entirely out of a congregation of ferns others of grass & reeds : I collected a number of the best pieces, among which were four different species of fern, very distinct : *Asplenium ebeneum*, *Polypodium vulgare*, *Pteris aquilina*, *Osmunda interrupta* & a sort of *Nephrodium* with some pieces of reed or grass ; there were large pieces with a kind of scitaminous, plant with very large leaves, longitudinally & very finely nerved ; but they were too large for me to carry, this day : But the greatest pleasure I had, when by looking over these fragments of drowned vegetation, I found a piece, with the same impression as the one in possession of Dr. Barton, & which was supposed to be a Cactus ; by looking about I found more pieces but all more or less defaced & worn. This impression, when seen with the Dr I almost doubted to be natural, but now finding so many fragments of it among other vegetable impressions, makes it a proof to be a true impression of a vegetable ; the above mention impressions on the horizontal rock above the hollow seem to belong to it, & have only been defaced by the water running over them, which has worn off the nett like figures, & only has left the holes between the meshes of the nett ; the cast with plaister being not yet dry, I left it standing, to come out in the evening again, to get it. I carried a whole handkerchief full of impressions, with me & returned to the town, almost exhausted to faint away I went to bed & in the cool of the evening ; I took

an other walk to the coal pit, to see whether my cast of the impression got dry ; but I found it was not, neither could I get a piece off ; & as I had found to my satisfaction that it was not only a worn piece of the Cactus impression, as I for convenience sake call it now, I went back, to town, not much disappointed. Mr Hart who keeps a country store on the mouth of Lawahannock River about 10. m. from Wilkesbarre, at a place calld Pittstown, intended to go there to morrow, & I promised to come out there likewise, if my health would allow it, as it would be so much on my way towards the Beachwoods which I was determined to visit.

In the neighborhood of the town, I observed frequently *Iris*,—*Leonurus Cardiaca*—*Prinos verticillatus*? *Eupatorium perfoliatum*—*Andromeda paniculata* *Spiræa salicifolia* *Cephalanthus occidentalis*, *Veronica scutellata* &c. I left the collection of Impressions to the care of Mr. Hart to sent them to Dr. Barton.

20.—Still very ill & weak, being not able to bear the least nourishment in my stomach ; but I ventured to go to Pittstown on the Lawahannock I travelled on slowly, & still I thought those 10. m. a very good days work in my weak situation ; I found Mr Hart there, & took lodging at Mr Dukers, the tavern where he keeps his store at. The road leading the greater part through cultivated lands. I observed nothing this day, but the common weeds. The Susquehannah breaks at this place through a ridge of mountains calld the Lakawannah mountain.

Sunday Jun. 21.—I was very anxious of exam-

ining this seemingly interesting part of country; & being informed of a very handsome cascade called the falling spring, on the mountain on the other side of the Lawahannok, I in company of the landlord, set out for that place, this man was led to go with me, in hopes of finding out the place, where by tradition of this place, a silver mine has been worked on the brook which forms this remarkable cascade. We went through very fertile fields & meadows; Strawberries were found ripe here; *Pentstemon pubescens*--*Erigeron bellidifolium*--&c. The shores of the Lawahannok were covered with *Viburnum*--*Cornus*--Silver Mapple--& a few Oaks mixed here & there with Ash.--The Elder is in these parts more plentyfull, than near to the Sea Shores. About a mile & a half on the other side of the Lawahannok, we came to the gap, where the Susquehannah comes through,—& soon after to the cove in which this remarkable spring comes down; the sides of the mountain is here very steep & comes close to the bank of the river; in a small recess or cove, this small brook falls over a nearly perpendicular rock of from 80 to 100 feet high down; it forms one of the most picturesque & lovely cascades I ever beheld: the place is surrounded with shady trees & the rocks covered with ferns & moss of different kinds--The *Nephrodium bulbiferum* & *marginale* are the principal Ferns; *Stellaria graminea* grows among the moss, with *Mitella diphylla* &c.--I observed a *Orchis*, growing in the crevices of the rock, not in flower, but supposed to be *O. fimbriata*.—*Acer pensylvanica*, under the falls in flower.—We climbed round the

precipice to the top of the fall, & followed this run up towards the top of the mountain. This brook has so many smaler falls, that we hardly were able to come along, but we persisted in it, to the top of the mountain: where we found it having its origin in an altogether impenetrable & inaccessible swamp. I found here *Diervilla tournefortii* in flower & *Acer montanum* in seeds; from here we went over the mountain in another direction & home towards the tavern. This walk had been, in my present weak situation very fatiguing to me. On our route home I found *Anemone pensylvanica* & *Geum canadense*.—The river shore is covered with *Carpinus americana*, Water beach & White Mapple & Buttonwood.

22.—As I thought the neighborhood about the falling spring very interesting I took an other excursion to it, to day; *Hydrocotyle americana* not yet flowering covers a great part of the wet rocks about it; I observed nothing new & as I felt myself very ill, made the best of my way towards the tavern; very much exhausted I arrived there & indeed I apprehended the greatest danger from my situation of health; From the time I was taken with this sickness of stomach & colical complaint at Wilkesbarre, to this day I used the infusion of *Eupatorium perfoliatum*, which has done me good so often, very freely; but it would do no help this time, my stomach remaining in the same situation, not bearing the least of food or drink without vomiting. Notwithstanding all this, I concluded if possible to leave this place to morrow, & go on towards the beach woods, which I was very anxious to see, without a

days time lost, for fear of loosing a chance of seeing something interesting.

23.—Not finding myself sufficiently fit for setting out on the journey, I deferred it for to morrow main time I took a walk to a very rich swamp, belonging to one Mr. Browne I observed a species of *Ranunculus* seemingly new to me—*Veratrum viride* in full bloom—*Asclepias quadrifolia*—*Panicum latifol.* *Lobelia claytoniana*—*Viburnum* & *Cornus*, vide collection—*Calla palustris* the white spatha of this plant has a beautifull appearance in the water. On my return I made preparations for getting on my journey to morrow. A small collection of dryed plants I packed up & left them to the care of Mr. Hart ; I observed on the Riverbank a plant without flowers of a strong turpentine like suell ; I took it to be *Chenopodium Botrys*. Mr. Hart furnished me with a letter to a gentleman in the Beach woods, Bloomfield Millbourne, who he said was a man of some information & very much acquainted in that country.

24.—Early this morning I paid my reckoning & went on my route up the Susquehannah, I had to keep the banks of the river for above 10. miles, to a creek calld Buttermilk Falls. Along the steep banks I observed *Viola lanceolata*, on the shore—*Geum floribus albis* on the rocks this species has large flowers & is new to me—*Campanula foliis linearibus*—this may be the *rotundifolia*, I could not find the radical leaves ali ve it is beautifull—*Thalictrum* (pfl :)—*Spiræa trifoliata* & *opulifolia*—*Polymnia canadensis* (:aff:)—*Lilium flore erecto patente, foliis verticillatis*

sparsisque—*Pyrola rotundifolia* (:afl:) *Pentstemon pubescens* in great plenty—*Hydrangea vulgaris* (:afl:) *Hieracium venos.* Among all the plants the *Rubus odoratus* made a most brilliant show; its beautiful, crimson or rose colored flowers among the very large showy leaves, ornament those steep hills in a most elegant manner. The *Ribes Cynosbati* with prickly fruit grows plenty among the rocks, *Lobelia Claytoniana* very frequent & the first specimen of *Orchis fimbriata* beginning to open its flowers; this is a very different plant from the tall sort I collected last year in the natural meadows on the Alleghany; I suppose this last one Muhlenburg has called *Orchis dentata*, or *incisa*, I cannot recollect which. Buttermilk Falls is a small creek coming out of a pond on the mountains; it runs over a bed of rocks & forms a number of falls, it is calculated by nature for mill seats, several of them have been erected on it chiefly Saw mills. From here the timber begins to be chiefly Hemlock mixed now & then with Beach. I came as far as one Wm. Wall, where I lodged; this place is near the waters of Tunkhannock creek where the Beachwood properly begins.—The rocks & stones in this tract of country are generally a coarse grained limestone granit mixed in several places with wacke & glimmer; In the creeks and small runs pebles of a basaltick blackish blue wacke, quit clear of any quartz or glimmer are frequently found. Large lumps of budding stone, mixed of various coloured pebles, laying in a bed of gray clay mixed with coarse

white sand are found plenty. Appearances of real lime stone is scarce.

25.—This morning I proceeded on my journey by paths narrow, undistinct and though in a dry season very muddy, on account of the springy nature of the soil in this part call'd the beach woods & the impregnable shade of the trees—The beautifull *Oxalis acetosella* made its appearance again with her elegantly painted flowers. I have seen above 20. of the species of this genus from the Cape of Good Hope but non with so handsomely marked a flower; I still think it must be a different plant from the *Oxalis acetosella* of Europe, as I never admired this common sort there, for its colours, & as far as my recollection goes, the flower is clear white & a great deal smaller than ours here; Michaux I suspect has made a mistaken there. *Mitchella repens* the first in flower. *Nephrodium femineum* & the *lypteroides* cover the ground in open woods. It is remarkable that all those places which are covered on the Oak lands with the *Osmunda cinnamomea* & *interrupta*, are here covered with the different species of the more common sorts of *Nephrodium*. Among the rotten heaps of wood drifted by water or fallen by wind, I found frequently the *Fumaria fungosa* (:*af*:)—*Caulophyllum thalictroides* (pfl)—*Potentilla hirta*? *Veronica scutellata*—*Dalibarda fragarioides*, *Iris* ... *Viola circeifolia* V.—the same as I seen last year at Shenandoah & then call'd *V. populifolia*. This is a very elegant species, the inside of the flower is milk white with purple stripes & yellow eyes at the bottom of the petals, the outside of a fine pale

purple, can it be the true *Viola striata* of Aiton? —*Rhus vernix* grows very tall, I seen trees 25. feet high, if not more. *Hydrophyllum virginicum* —*Cornus*, the *Carpinus americana* & the *Betula carpinifolia* is very frequently mixed among the beach & Hemlock. *Viburnum lantanoides* calld here Shin hobble or Hobble bush on account of its branches taking root and impeding the walk through the woods very much, forms large thickets in several places.

I crossed the Tunkhannock & proceeded on up Martin Creek : on the heath waters of this is the place called Hop bottom, where Mr. Milbourne lives, & where I intended to make some stay, to make excursions for further observations.—all this country has been lately began to be settled, the roads are heavy bad & difficult to pass & so much more to find, as the most of them are only blind paths. — It got evening when I came to Hop bottom creek, & I give up the idea of reaching Mr. Millbourns place, as it was three miles further on : but finding on enquire Mr. Millbourne to be at a house there himself, & just now ready to go to his place, I went there & delivered my letter from Mr. Hart, he offered me his horse to ride to his place but I only accepted of the offer of carrying my wallet on his horse, as I was exceedingly fatigued, & he riding slowly on I made the rest of the road to his house, through a very bad piece of road, full of roots & mire holes, in the dark. He appeared to be a very fine man, though of but little education, yet of a great deal of natural good sense. Mr. Hart had mentioned in his letter, to make me acquainted with the Leek & the Pigeon berry of

this country, which he told me he would venture to show me, but thought that both of them were dyed down, as both are the earliest productions of the season. N. B. The *Tiarella cordifolia* is as common to this country, as it is to the great swamps of Wilksbarre. They call it here Rough leaf.

26.—This morning I took an excursion accompanied by Mr. Millbourne who wanted to show me the Leek & Pigeon pea, as he calls it. We could not find either of them, though he brought me to places where he said they were found in great plenty. We tore up the ground in several places, & at last succeeded to find some of the roots of the leek; it is a long bulb, of a very strong garlick smell, with a black skin outside; the leaves are broad & long as he says, & appear the earliest of any thing in this country; it grows in moist, shady places along side the hills, near the bottom of the creeks: I cannot suppose it to be *Allium tricocca*, as that prefers a rocky situation. By the way in looking for these I observed *Streptopus lanuginosus* & *roseus* (:p fl:) *Botrypus virginiosus*, *Scandix dulcis*,—*Trillium erythrocarpum* (:p fl:)—which flowers white & red here, & is calld Bathroot & though to possess great power in diseases of the lungs & liver. *Acer montanum*, very common through these woods called Elkwood.—*Orchis bifolia*? This very singulare plant, has without doubt, the handsomest leaf, of any of our natives: the two leaves lay opposite one another flat on the ground, are nearly circular of a handsome lurid green with darker longitudinal nerves & sometimes 6. inches wide: the underside of those leaves

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26.— This morning I took an excursion accompanied by Mr. Millbourne who wanted to

show me the Leek & Pigeon pea, as he calls it. We could not find either of them, though he brought me to places where he said they were found in great plenty. We tore up the ground in several places, & at last succeeded to find some of the roots of the leek; it is a long bulb, of a very strong garlick smell, with a black skin outside; the leaves are broad & long as he says, & appear the earlyest of any thing in this country; it grows in moist, shady places along side the hills, near the bottom of the creeks: I cannot suppose it to be *Allium tricocca*, as that prefers a rocky situation. By the way in looking for these I observed *Streptopus lanuginosus* & *roseus* (:p fl:) *Botrypus virginiosus*, *Scandix dulcis*,—*Trillium erythrocarpum* (:p fl:)—which flowers white & red here, & is calld Bathroot & though to possess great power in diseases of the lungs & liver. *Acer montanum*, very common through these woods calld Elkwood.—*Orchis bifolia*? This very singulare plant, has without doubt, the handsomest leaf. of any of our-natives: the two leaves lay opposite one another flat on the ground, are nearly circular of a handsome lurid green with darker longitudinal nerves & sometimes 6. inches wide: the underside of those leaves seems to be beset with very minute cristallizations, which when magnified are nearly of the structure of the Ice plant, which gives it a very brilliant appearance. The stock is generally from 12 to 15. inches high, angulated & naked. The spike of flowers is considerable long & loose; the bracte is lanceolate linear, acute, of the same texture as the leaf only finer, & as long as the

germes. The germen is lineare & lively green ; the corolla silvery white, with a green hue over it, & very open when in full bloom. The 3. outside petals or calyx leaves, are more greenish outside than the rest, the upper one is broad, ovate deltoide, or of a heart shape without sinus, & acuminate, the other two side petals are longer & oblique, seemingly only the half of the shape of the upper one, the three inside petals are narrower, the two upper ones oblonge & acute & oblique on their base : about the length of the upper outside one, the lower one or the labium longer than the rest lineare oblonge & obtuse :— the spur is longer than the germen, & thicker toward the end : the anthers 2. laying in a groove on the upper edge of the nectary or stigma, which seems to be only a continuation of the labium : they are of a clavate form, & at the time of fecundation burst out of their cases, & attach themselves to any part of the flower by way of a kind of clasper or foot on one end which will get hold of any thing, in the same manner as the claspers of *Bigonia radicans* will do to a wall. This emigration of the anthers is very easely & distinctly seen in this species : Sometimes even the anthers will stick to the stem or the bracteis, or almost any part of the flower : It is almost certain, that it is not possible any impregnation can find place, until they have burst out of their cases, as they are very close confined there. This plant is calld here Allheal or Healall & used by the people in fresh wounds, where it is found the most healing thing, they would wish to have, they use the leaf & suppose one side

will draw and the other heal, but I could not learn which sides they were : it is exactly the same talk as about the leaf of *Erythrorrhiza* in Virginia.—The root is fleshy & strong fibrous with an ovate small & white bulb-like bud in the centre, for the next year plant.

Mr. Millbourne told me, that two years ago, one of his neighbors having himself cut very badly, with an ax applyed to him to get him some of the Healall, but as those leaves had decayed at that season, he took a leaf seemingly allyed to the true one in respect to texture, & succeeded with curing the wound in a very short time ; after that he said he thought as much of that plant & more : as the leaves could be got at any season than of the true Healall (*Orchis bifolia*) when he showed me this leaf, I found it was the same species of *Viola* I had taken notice to, in Wilkesbarre swamp, with large spreading cordate & very thick fleshy leaves, which growing then in company of a white flowering Violet of another species altogether, I was mislead to take only for outgrown & old leaves of that same white *Viola*. But no other *Viola* leaves appearing in the neighbourhood of those plants, shewu to me by Mr. Millbourne, I began to suspect my error ; On examination I found young flower buds & at the same time half formed seed vessels on some of these plants, which brought me to the determination of examining this doubtfull plant more closely & as it grew plenty & near hand : I deferred his examination for another day.—Ginseng was in berries—*Uvularia perfoliata* & *sessilifolia* (; p fl) *Geum rivale*—*Sium*

canadense (:a fl:) Orchis spectabilis (p fl:) Urtica spec.—Black & Red Raspberries in flower—The Pigeon berries or Pigeon peas we could not find, until we returned to the house, where a place was where they commonly grow : in hoeing up some ground they showed me the roots by which I found them, to be probably nothing else, than the tuberculis of a species of Glycine, resembling marrowfat peas very much : the pigeons scratch them up at certain times of the year & feed upon them very greedily.

27. 'Tis the heath waters of Martin creek come out of several ponds laying in the highest part of the beach woods, I was very desirous of seeing them; Mr. Millhouse in expectation of getting some Venison dit go along with me ; as there is no road or path leading in particular to those ponds, I was very glad to get him as guide : though I would have been able to find them, it would have taken me a night to stay on the road, which was now unnecessary as he could find a more direct course to them, without following the water, as I would have obliged to do.—We ascended gradually, crossing some of the branches now & then, on one of which was a very handsome cascade, on whose banks nearly the same plants grew, which I found about the falling springs, at Lawahannock—The Oxalis acetosella frequently occurs here with quite purple flowers, which colour in some instances is quit deep.—Mr. Millbourne made me attentive to a root, which he calls Pepperroot—'Tis a white longe & articulated root, creeping on the surface of the ground, under the rotten leaves, & has but one leaf

which is three lobed ; I could not find any signs of flowering or any remains of a flower past, on it ; but I suspected it, to be species of *Dentaria* ; the root especially the young shoots have a very agreeable pungent taste : it grows very plenty here, in shady moist places.—when he came to the first pond, we kept ourselves quiet to watch for deer coming in sight, we seen two, but both out of reach, on the other side of the pond ; here I observed *nymphæa lutea* & *odorata* in flower, the latter only beginning to expand ;—*Pontederia cordata* (a fl:) which I did not expect to find here. *Brasenia peltata* (:a fl:)—this plant I always had an Idea to be a more Southern one, but it grows here to great perfection. *Schoenus cyperoides* ? &c.

On the second pond I went on a Granberry marsh, which produced nearly the same plants, as those mentioned on the marsh on Pokono mountain ; Mr. Millbourne told me that he had seen quit white *Cypripediums* on this marsh & by his account, it seems to be a sort nearly related to the *C. acaule*. The borders of those lakes are very difficult to come at, excepting on those marshes, where you have to wade through the swamps & mire sometimes to the middle. We went up to the third pond, which is the highest : nothing new, but a species of red currants with hispid fruit, quit new to me ; it grows in wet marshy ground, I found it afterwards in descending from those lakes or ponds quite in a hollow on one of the branches of creek in marshy muddy rich land ; the berries are very good to eat, as they say ;—*Nephrodium Filix*

mas as I suppose grows here very tall & frequent.—Besides this a variety of the more common ferns. We returned to the middle pond in expectation of seeing deer, but finding none there, Mr. Millbourne being provided with hook & line, made a dryal at fishing, as it were on the top of the mountain—He soon brought out some fine Sunfish & gold Pearch & a fish they call here Bull or Hornfish, it resembles a catfish very much & grows sometimes to the length of 12 to 14. inches ; the skin is black ; he has 4. feelers above & 4. below the mouth, two of the upper ones are very long, the two breast finns are very hard, & bony, from which it has been calld Hornfish.

On our return from the ponds, we came across a stoud bear, which we killed, but it getting late & begining to rain we were obliged to hang him on a tree & leave him there till the morning next:—Before we reached home we got wet all through & it go^t so dark that we had a good deal of trouble to come through the bushes without running ones eyes out.

About the ponds *Lycopodium complanat.* & *Circaea alpina*, *Hydcotyle americana*. *Drosera rotundifolia* were frequent, the latter had the most of her leaves containing a fly or muscicidoe which they ketch in a similar manner as the *Dionæa* does.—I dont think any place can be more infested with muscicidoes & gnats or as they call them here Punks, as this country is, the people are obliged to make fires before their doors to keep them out of the houses, & them, who milk cowes are obliged to kindle fire & make a

smock to be able to stand milking, in the evening and morning.

28.—This day I was busy in drying & arranging the plants collected since I came here ; Mr. Millbourn went to the place where we killed the bear to fetch him home ; he weighed 208. pound with the skin, his meat tasted most excellent. In a small excursion I made I found plenty of the Allheal & *Pyrola secunda* beginning to show his flowers. I collected a number of plants of the *Viola* with thick leaves, to have a close examination of it in the house which made me sure, that it is a new species, very easy to be overlooked by almost any botanist on account of its singular way of flowering ; the fleshy root is full of tuberculis, between which the numerous fibres have their origin, between the footstalks of the leaves on the top of the roots are several lanceolate stipulis, or scales involving the footstalk. From three to 6. leaves spread themselves out flat on the ground, their footstalks are long semi-cylindrical & smooth ; The leaves are ovate, cordate, repand, crenate, nervous ; the sinus on their base small and narrow ; the upper side hirsute or covered with scattered single short hair, the underside nearly smooth ; they are of a strong fleshy texture, more so than any of the other species of this genus, to my knowledge ; the flower stem or scape comes out between the leaves & creeps close to the surface of the ground, mostly under cover of the leaves almost in the manner of stolones, he is cylindrical & sparsedly beset with lanceolate bracteis, of a membranaceous texture & mostly a purplish brown colour ; near the end of those

seeming stolones most commonly they have a small leaf similar to the larger ones in whose axilla a partial peduncle is formed, which with its flower on the end bends down to ground & almost covers the flower in the ground: from there the peduncle goes on in a similar manner with opposite bracteas & one partial peduncle on each joint, so that it forms a kind of raceme with 3 or at most 4. flowers; in this manner of flowering it differs from all the rest. The flowers are small & very inconspicuous, they are always nodding down & never open entirely; the calyx consists out of 5 unequal leaves in size but equal in length; they are acute & two or three of them have a projection behind, in the same manner as some of the plants of *tetradynamia siliquosa* have: they are of a purplish green & very frequently spotted. The 5 petals are linear & acute: the upper one is the longest, but only equal in length to the calyx, & likewise the broadest, generally white with red & purple stripes, & red or pink towards the point; the two lateral ones shorter and narrower, white with but little red in them; the two lower ones very short & very narrow & white. The 5 stamens have purple filaments & large yellow anthers with a conical white projection or process on the top: they are entirely free, the germen is as long as the filament 3-angled & greenish. The style short & with its hairy stigma only the length of the filament. The capsule is 3-angled with rounded angles, smooth & considerably large for the size of the flower; it is green spotted with purple & sometimes en-

tirely purple. The seeds round & white. I call this species, as I really think it to be a new one, from its singular & hidden way of flowering *Viola clandestina* or if this would not be applicable, I should propose the name, though not used before *V. stoloniflora*—It grows in rich stony & shady woods.

In the same places I observed another species similar to the former, yet materially different, which I called *V. asarifolia* in the collection. I regretted very much, not to have been earlier in the season in this very interesting country; A monographia of *Viola* would give a beautiful & interesting work if it were possible to collect them all together, from all parts of the world. as they seem to be very generally dispersed; I think we could muster above twelve species towards it.—This day kept on cloudy, with showers, & the evening got to be very cold for the season.

29.—I had intended to proceed on my journey to day, but it looked too much for settled rain, I staid. My intention was to go from here over the high lands which divide the north & southern waters of Susquehannah & then strike to the left down Meshopen creek, where there some New England people settlements are, which would have brought me out below Tyoga point. But by advise of the people who stated the badness & intricacy of the roads besides the temper of those settlers at this time, being very jealous of their settlements, having them lost by a lawsuit, which has made them swear to kill any man, who would undertake to survey the grounds, this made me abandon the project, & I concluded

to go to the Big bend & down the Susquehanna to Tyoga.—In an excursion to the woods I found *Nephrodium Dryopteroides*, Mx as I suppose, I never observed this Fern before.

In the afternoon I went to a place where I understood the *Cyripedium spectabile* or canadense of Michx grew : I found but one bunch of it ; This beautiful plant is the same I observed last year at Capon springs.

30.—Still rainy ; but looking again noon somewhat better, I took the road ; this led up through winding valleys to the highlands, where I found considerable settlements ; nothing new—The *Ranunculus acris* is here sometimes so plenty, that it destroys the natural meadows. I seen whole meadows looking at a distance like a field of Rape in flower, with it. Here I first some of *Cistus canadensis* in flower :—I had put up about 10. m. from the Big bend, on account of the frequent showers, at one Mr. Carr I seen to day a few plants of *Cornus canadensis* out of flower.

July 1.—From here I soon reached the Susquehanna : the road leads close along the north side of the river ; Oak & Pine are more prevalent here & along with them the wet spots are more covered with *Osmundas* whereas in the Beach woods & similar places where Beach & Hemlock makes the chief timber, the several species of *Nephrodium* occupy the places of the *Osmunda*—*Pentstemon pubescens* & *Scrophularia nodosa* in great plenty along the banks—I made my way as far as Chenango a very handsome little village.

July 2.—From Chenango I would have had a strait road to the Salt lakes, but my appointed

place was at Tyoga. I proceeded on, down the River, *Populus tremuloides*, *Tilia americana*—*Cratægus Crus-galli*, *Cornus aspera*—& *fastigiata*, —*Thalictrum nigricans*—were the plants not observed before. The Banks on both sides of the river alternately are higher & lower & the mountains, especially on the south side—which approach near the river; in some places considerable high. The timber on high places is chiefly Oak, mixed in the most places with pitch pine, more or less according to the soil. I staid this night at Owego, a small village, situated in a very beautifull place. Close to the water-edge of the river I found plants which in foliage appeared to be *Potentilla anserina*.

July 3.—From Owego I had but 17 m. to Tyoga point—*Hieracium venosum*, *Cistus canadensis* *Cornus fastigiata*?—the *Asclepias quadrifolia*—this plant dit grow in the late cleared grounds higher here, than I seen it any where else.—I found several specimens branching out in a number of umbellas, that it appeared to be quit a different plant.—While I was walking along the river this morning a black squirrel crossed the river, which I anxious to know what it were dit kill. It seemed strange to me for a squirrel to take the water. *Oenothera fruticosa* & *parviflora* in flower. A little after noon I arrived at Tyoga, & but up at Mr. Tuttle's, where I had directed my trunk to be sent to; it had not arrived. On my calling on the post office I found a letter from Dr. B. S. B. with instructions to proceed on to Onondaga.

July 4.—I took an excursion from the house to the point, its meadows & banks of the river.—

Along the river I found similar petrefactions in the loose rolling stones similar to those at Wilkesbarre ; some specimens I laid aside if I should find opportunity to sent a collection from here ; they were some beautifull large shells, remarkably well preserved. Several large stones were run over with a calcareous shell or cover on which smaller peples had attached themselves, in a manner of rough cast.—*Anemone dichotoma*—*Galium Mullugo* ? *Smyrnum integerrimum*—*Euphorbia corollata*—*Thalictrum nigricans* which has a very heavy smell—*Lobelia Claytoniana* & *Heracleum lanatum* were in flower.—I seen a species of *Hypericum* along the river which I supposed to be the *H. ascyroides*.—in the same places *Pulmonaria Virginica*—*Acer glaucum*—a species of dwarf Chestnut Oak & large bushes of *Cratægus coccinea*.—Alltogether I dit not find this place as far as I had seen answering my expectations & concluded not to delay any time in or about it, but to proceed on to more interesting scenes.

July 5.—This day I devoted to writing & drying plants :—small excursion : nothing new.

6—Left Tyoga, up Cayuta Creek—*Apocynum androsacmifol* : (.b.) very plenty in the cleared lands ; in the Oak Woods I observed the Lily, often seen before, but I cannot recollect which species it is ; it is *Lilium foliis sparsis verticillatisque* : caule unifloro ; floribus erectis : corollis campanulatis, semipatentibus ; petalis unguiculatis.

The valley, formed by Cayuta Creek is in soil & vegetation similar to the beach woods—*Oxali*

ascetosella, but not plenty—*Dracæna borealis*—*Helleborus viridis*—*Orchis fimbriata* in full bloom—*Dalibarda violæoides* in fruit.—The woods about with Sugar Maple ; The valley is in some places very narrow & the creek very winding which obliged me to wade it several times to keep the road—I heartily expected to reach the house this night, which had been recommended to me to stay at, but I did not come to it before it got dark.—I observed in a small run a species of *Sium* as I suppose, without flowers whose leaves under the water were very fine divided, & the upper ones only pinnate ; I call it *S. heterophyllum*. From a small tavern, which is kept here, it is about 22. miles to the head of Cayuga, which I intend to reach to morrow.—

7. Having opportunity of going in company of a wagon, who would carry my things, I set out early this morning. The road leads through a very romantick valley, the mountains sometimes very high. After following the course of Cayuga cr: for 9. miles, we turned oft to the right. The vegetation similar to what I mentioned yesterday, 8. miles this side of Cayuga city or as it is called sometimes Ithaca we crossed a place very beautifully situated calld Sapony Hollow: this place has been once cleared & probably settled by Indians, but it is now grown up with small white pine very handsomely mixed with *Populus tremuloides* & *Magnolia acuminata*. The last is very scarce about here & the trees here in this place & two or three others I seen are of a creeply, small & old growth, nothing like

to what they are in Virginia. At this place we refreshed ourselves and feed the horses, as far as this I had this days travel very agreeable, as on account of the roughness of the road & the deep mire holes in some places the wagon could not go on as fast as I could walk, having plenty of time to look about myself: besides being unincumbered with any baggage. But the road getting now good & evening drawing nigh, I had to get into the wagon & we travelled tolerable fast.—About 3 or 4 miles from Sapony Hollow the timber changes into Oak & from there to Ithaca it is all Oak timber mixed with pine, with the rest of plants similare to Tyoga point. We arrived at Ithaca at night fall.

8.—Being now on the heath of Cayuga I remembered your information about *Erica caerulea* growing on the high lands between Cayuga & Seneca lake; I was very anxious of seeing this plant in its native place, but having not received the particular directions for finding the place, as I had been promised of, besides that, being rather afraid of running myself out of money necessary to come to Onondaga, as my pocked was but low & the distance yet considerable, I had to my own mortification, to give up all Ideas of a search for it. The morning was rather suspicious for rain, as it had rained some all night, I was detained at Ithaca until 11 o'clock, when I set out for the lake, which is only 2 miles distance. My route was going on the east side of it. After having crossed Cayuga creek, with a great deal of difficulty, to perform it, & coming on the

rising grounds, on the other side, I heard a very strong noise of falling water : I followed the sound & came to one of the most romantick & beautifull falls of this Creek, I ever had seen ; the access, even only to a sight of it is very difficult ; but I regretted very much, that I had not had the least information about these falls at the town, as I should have made it my business, to visit them unincumbered with my baggage though I might have spent the day by it. The ledge of rocks confined in a very narrow cove, & surrounded by high hills : (impossible to ascend, with a load on my back on account of their steepness ;) over which this considerable stream draws itself down, is a very interesting scene, & I doubt not if time & opportunity had allowed me to make an examination of it, I might have been paid for the trouble with something or other interesting or new in my line ; but to go back to the town, I thought to be to much ; so I had to go on & be satisfied with having had only a peep at it. I got in my road again, where I observed along the banks of the creek plenty of *Pentstemon pubescens*. About a mile further I came to the banks of the lake. The shore which I came to was clear & gravelly with some common weeds growing near it, as Thistles, Mulliens, &c. I followed the shore of it, for several miles, being in my route. It is generally covered with oak, maple & hickory. *Bupthalmum helianthoides* is the first yellow syngenesia plant I seen this year, *Taraxacum* excepted. A small *Rosa* similare to the one which I called last year *R. monticola* is

very plenty here, & spreads a most agreeable fragraney through the air. A species of *Crataegus*,—*Ludwigia nitida*—*Ceanothus americanus*—*Lilium canadense*—*Apocynum androsaemifolium* with a *Galium Mollugo*?—*Orchis fimbriata*—*Cornus* with white berries, *Erigeron corymbosum*! P.—*Typha angustifolia*—*Smyrniun cordatum*—*Mimulus alatus*—*Galium hispidum*,—*Veronica scutellata* & some more common plants, I observed in the meadows leading to the lake. I travelled as far as the town of Milton, where I stood over night. The road, as soon as I had left the banks of the lake began to be quit interesting, as the fences on both sides & cultivated fields, with continued plantations, & farms occasion the road only to be covered with common weeds, amongst which the *Verbascum thapsus*, *Anthemis cotula*, & *Polygonum hydropiper* have the upper hand.—In one of the woods on this road I collected specimens of *Nephrodium filix mas*?—

9. I set out early this morning to make as much way as possible through this for my purpose to much settled country: *Carpinus americana* & *Ostrya*, which last I calld *C. hispida* on account of the cover of the young branches, with stiff hairs, are common in the woods: the timber very frequent beach & *Betula lanulosa*, mixed now & then with Oak—*Morus rubra* frequent. On one or two farms I observed the mulberry cultivated in orchards maybe for the raising of silk worms, as the trees were low & planted in regular close rows.—*Cicuta maculata* I found on the road side in several places.—Nothing new in

flower.--Lodged about 8. m. this side of Hardenbergs corner or the outlet of Owasco lake.

10. About 10. o clock I arrived at Hardenbergs corner or the outlet of Owasco: the day got exceeding hot, more so than I had experienced this season; I stayed to rest myself, feeling exceeding fatigued, about 11, a stage from Canadaugua came in & as I found the road but very little interesting, being all a continued range of cultivated land, I concluded to take a seat in the stage, which would bring me to Onondaga this night yet, which I would not have been able to accomplish untill tomorrow night, the distance being 22 or 23. miles. Here I observed the first plants of the *Myosotis lappula*, for this season; growing along the road side in great plenty, as a common weed. At Skeneatiles lake we took dinner. This is a most charming situation. At evening we arrived at Onondaga hollow, having had two hours rain before we came there. Here I took up my lodging with John Adams. The post office being nearly opposite of this, I enquired for letters but to my great disappointment found none.

11. This day I rested & made some necessary arraigngements about specimens which I had collected, either dry or in their green state--Enquired for the places of Capt Webster & Squire Geddes.

July 12 Very anxious of seeing the Salt springs which are only 5. m. from this place, to the north, I took a walk to them; but being Sunday & knowing that I would have further opportunity of collecting specimens, I dit not provide

myself with the tin box to collect any to day. The road goes chiefly through Oak woods, and crosses a considerable piece of swamp, through which Onondago creek runs close to the road side. I observed plenty of *Zanthoxylum fraxinifol.* on its banks—several sorts of *Carex* & *Scirpus*—*Samolus Valerandi*,—*Asclepias tuberosa* — *Turritis falcata*, *Apocynum androsæmifol*—&c.

When I came to the springs, the place is called Salt Point I found them to be situated in a low piece of a swamp which is clear for a great part of all timber ; The works for boiling being erected along the edge of this swamp, on a high bank & the water conveyed to them in pipes from a pump work, which is erected near one of the principall springs : some of the works are supplied by other smaller springs, the water being pumped by hand.

They boil the salt in potash kettles holding from 60 to 100. gallons ; 6 or 8. kettles form what they call a block which has two fires to it ; each kettle produces from a bushel to a bushel and a half of salt each boiling—The water is by far superior to any water I have tasted where salt is manufactured. Near the springs themselves the *Salicornia herbacea*, is the only plant which grows, but further oft in the mash a variety of various plants I am in expectation to find, but as I had only shoes on to day & intented to be back to my lodging I deferred the examination of the mash to another day.

July 13. My anxiety of seeing a letter from Dr Barton was so great, that I thought it would best be to call on Squire Geddes to-day, and see

whether there was not one in his hands. He lives about 6. m from the Hollow, northwest; I set out for it,--near Onondaga Court house. I observed plenty of *Cynoglossum officinale*, calld here Tory weed & *Myosotis lappula*, which is every where common along the streets. *Verbascum Thapsus* common on the waste grounds, & *V. Blattaria flore albo* is here and there to be seen about Onondaga. *Epilobium parviflorum* with red & white flowers, among the *Sonchus Canadensis*, which covers all clear spots in the woods: this *Sonchus* is the same as they call to the south Richweed, Milkweed & Butterweed. *Cornus scabrosa?* & *fastigiata?* *Silphium laciniatum*—not yet in flower.—*Verbena urticifolia*—*V. hastata*—*Triosteum perfoliatum*,—*Asclepias multumbellata* P. the same as I calld so last year from the Peaked mountain—*A. umbellis pluribus nutantis laxifloribus, longe pedunculatis; calyx laciniis acutissimis; petalis reflexis calyce duplo longior, ovato oblongis, virescentes extus purpurascens: columna nectarifera basi purpurea, nectaria ovoidea alba, crassa, corniculis longis, convergentibus.*—*Asclepias syriaca* is common about here.—I likewise observed a plant which only seems to be common to limestone land & which I had observed last year throughout the great valley of Virginia frequent, but never had a chance then to see its flowers and seeds: it is the one which I have calld in Dr B collection, but suppose wrongly, *Lithospermum latifol.* of Michaux: this plant is as I then supposed a *Cynoglossum* & I calld it in my journal last year

C. parviflorum, which name I shall use for it in the future—*Cynoglossum corollis pallide cœruleis calyce subaequantibus urceolatis fauce callis clausa: antheris intra tubum corollæ, nigricantes.* In fact I see no difference in the parts of fructification among this species, the *Cynoglossum officinale* & the plant which I take to be *Myosotis Lappula*.—The seeds of these three plants are very much alike in structure likewise, for which reason I think, the *Myosotis Lappula* to be a *Cynoglossum* too.—Near Mr Geddes I found the *Blitum virgatum* in fruit, & in his mill dam a monstrous thick cover of *Chara fragilis*, which emitted a most horrid smell, the dam being broke & dry, & the whole of this *Chara* turn'd to the sun, & changed its green colour, which it has, when under water, to a clear white; at my first coming to the creek I thought the bottom of the pond or dam was a kind of marble by its colour; but getting down to it, I found it to be the *Chara* which had covered the bottom all over.

Mr Geddes was not at home & would not return until next day: Mrs Geddes however told me, that if any letter of the kind I expected, had been come to her husband's hands, she should have heard something about it, but she had not. I therefore returned towards the Hollow again. I observed plenty of *Chenopodium anthelminticum* along the roadsides, which is very common about here; *Potentilla hirta* or *Norwegica*—*Geum floribus albis parvis* & the *Thalictrum dioicum* mas & femina in full flower.

14. This day I visited Capt Webster, he lives about 3. m. south of the hollow : I found him to be a plain friendly man, he was too busy occupied in his work else he would, as he said, take a walk with me through the woods : but if I would come & see him again, he would go with me to the Indian village which I was anxious to see : I enquired about the Indian dog : but he told me that not one genuine one was to be found among those Indians any more, having degenerated by mixing with others to such a degree that hardly the traces could be seen in them. The *Hydrastis canadensis* grows in great abundance in the woods here, they call it Curcume: *Sanicula Marylandica*,—*Geum flore albo*.—*Polymnia canadensis*—*Elymus canadensis*—*Potentilla Norwegica*—*Asclepias tuberosa*—*Galium circaezans* &c were in flower :—The *Caulophyllum thalictroides* grows in abundance in these woods, it is called here Cohosh. Capt. Webster informed me, that there was one sort of Cohosh growing here with red berries, which I suppose to be the *Actea spicata* : I did not see any : The *Botrypus virginicus*, which is plenty here is used by the Indians as a principal remedy in the venereal disease. On my return to the hollow I observed *Cornus alternifolia*, which is called Green Osier. the other species of *Cornus* whose branches are always speckled, & which I suppose to be the sort with white berries grows plenty in the woods hereabouts.

15.--As I had to get my boots mended I kept the house all day & wrote a letter to Dr B having

as yet heard nothing from him. In the evening I took a walk to a store to get some paper. In going along Onondaga creek I observed a species of *Potamogeton* which I suppose either the *marinum* or *graminifol.* I describe it *Potamogeton ramis dichotomis, foliis longis, crasis gramineis superioribus vaginantes. cum ligula longa membranacea spica pedunculata, antheræ 4. crassa, sessiles 2 loculares foliolis calycis opposita, alba; stylis 4. stigmata peltata atrorubra.* This species abounds hereabouts very much.

16. This day I set out to have a thorough examination of the Salt marshes on Salt point: In going through the swamps between the Hollow & the Point, I observed the *Mimulus alatus* in great plenty; *Ranunculus aquatilis* in flower, on the branches of the creek: at the point I went along a Causeway made through the marsh & occasionally in the marsh itself, whenever I could get to it; but this season having been so much rain, makes it almost impossible to get in, last year I was informed one might have went every where through it, without much trouble, the season having been so very dry. *Cephalanthus occidentalis* & *Osmunda regalis*, fill up a great part of the swamp where any bushes grow; *Utricularia minor* I found but only one specimen in flower. *Potamogeton gramineum*, *Lemna arrhiza* & *polyrrhiza*, *Triglochin maritimum*; calyx 3—phyllus; antheræ 3. calycis foliolis opposita & breviora, sessiles, squamis 3. basi germinis inserte eoque adpressa, germen longum 3-gonum, stigma barbatum.--*Ipomœa rosea* foliis hastatis:

Vicia Cracca & *Lathyrus*?—*Xanthium spinosum*? *Campanula erinoides*, *Veronica scutellata*, *Alisma Plantago*, *Sagittaria sagittifolia*? *Galium Mollugo* & *Galium foliis quaternis linearibus*.—*Hibiscus palustris*, putting forth his flowers. *Polygonum amphibium*—*Juncus* & *Scirpus lacustris*, *Galium 3-fidum* a very small leaved species & truly 3 fid & triandrous.—*Ranunculus* a very small creeping sort, in the salt marsh with leaves like *Chrysosplenium* I calld it *R. stoloniferus*; it grows in thick tufts together, & covers the ground. *Asclepias syriaca* & *purpurascens*?—*Scutellaria galericulata*?—*Lysimachia racemosa*,—*Glycine apios*, without flowers—*Apoecnum cannabium*—which is used by the Indians as a purifyer of the blood. *Sparganium ramosum*—*Arundo*—*Panicum*—*Scirpus* &c. *Eupatorium perfoliatum* & *maculatum*—A grass which I suppose to be a species of *Trachynotia* of Michaux. This is a grass I never seen before. A species of *Sium* fills up a great part of the marsh it appears the same as I observed at Cayuta creek & calld *S. heterophyllum*.—*Sisymbrium amphibium* very frequent.—*Lysimachia racemosa*, this appears to be the same as the *bulbifera*; I dit not find one single specimen with bulbs here, though I purposely searched for it, may be they are different after all?? A species of *Rosa* growing pretty tall, grows in the most wet places, among *Sparganium* and *Typha*, which appeared very strange to me, it is in great abundance through the swamps. A *Rumex*, which for want of a name I call *R. polygonoides* is very plenty

in the marsh A plant unknown to me I found near the Salt works in the marsh amongst Iris & Scirpus with a long broad radical leaf like a beet & the stem some what like *Lythrum verticillatum*, no flowers to be seen. Having myself sufficiently satisfied for this day in this very disagreeable & stinking marsh, the day besides being very hot, I took some refreshments, & went towards my lodging at the Hollow again

In my return through the swamps I observed *Pyrola rotundifolia*—*Epilobium angustifolium*, beginning to flower—*Aster conyzoides*—*Chara*—*Monarda coccinea* & beautifull plants of *Lilium superbum*.—In going to the point this morning I observed a *Geranium* in foliage like the *G. carolinianum*, but with considerable large red flowers: I took but a small sprig of it, intending to collect some on my return, but I could not find the plant again

17. This day I was bussy of drying & butting by the plants collected yesterday. I received a letter from Dr B.ⁿ including 20. dollars, which I was very much in want of.

18. Having promised, this day to see Capt. Webster I set out for his place: We took a walk to the Castle or Indian Village: this tribe is but very weak, they are very genteel & well behaved people & industry begins to propagate among them: they have some very good fields of corn which they keep in good order. My object was for a great part, of learning the name of some herbs in their language: but Capt. Webster told me he knew the name of most trees himself &

some of the more noted plants, which he could give me by & by. *Phryma leptostachia* grows very tall & large here :—*Polygonum aviculare* the variety with upright stem & large leaves. *Cicuta maculata* grows in great abundance throughout Onondaga : the Indians use it to poison themselves, when they have an inclination in going out of this world ; it is a most powerfull poison, as Capt Webster tells me who has seen the case on some Indians which had eaten the root, & was lost without being able to get anything as a remedy against it, it occasions Lock-yaw & the patient is soon done. Elder bark or a Muskrat skin chappd fine, with the hair on is reckoned a remedy if soon applyed to. *Buthalmium helianthoides* in full bloom—*Hedysarum acuminatum* & a species of *Lespedeza* without flowers—*Circæa alpina* ? *Triosteum majus*--*Nephrodium dentatum*—*Asplenium salicifolium* & *polypodoides*, P—the former I could not find with fructifications.—On my return I observed the same plant which puzzled me so much last year: and which I took then to be a species of *Batschia*. It happened as then that I came too late for seeing its flowers, but foliage & seeds indicate it, to be very nearly related to it : after diligent search I found one small flower on the top of a young shoot remaining, which I carefully examined & found the following character *Batschia parviflora* P.—*corallis pallide luteis, tubus calyce subæquante, limbus subclausus, callosus : staminibus inclusis.* The *Cynoglossum parviflorum* in plenty.—this night Sqr. Geddes calld on my

lodging, having returned from his journey & hearing at the post office, a stranger having enquired for him I promised to be at his place in a day or two

July 19 Rested myself & wrote &c.

20. To day I took the excursion to Sqr. Geddes, & intend to go from there across the country to the Saltpoint again.—The *Viola circæifolia* P. as mentioned in the beach woods, is yet in flower here: I observed all above before mentioned plants on this route & the remains of *Sanguinaria*. The *Carpinus Ostrya* is calld Ironwood here & sometimes Leverwood—the *Carpinus Americana* is in common Waterbeach.—In a swamp near Mr Geddes's the *Cupressus thyoides* grows. In a Hemlock wood—*Pyrola rotundifolia* & *Orchis bifolia*.

Mr Geddes brought me to a deep valley about 1. m. from his house, where we ascended a steep very rocky hill; here large masses of rocks seem to be piled up, or tumbled over one & another in such a confused manner, that it has left large chasms between them, which sometimes appear like caves: as it has a north aspect & overshadowed with trees, all the rocks are covered with moss and vegetables: & I suppose this must be a very interesting place for the botanist in the spring, the walking is very precarious, as in some places large holes are hid by weeds & bushes, & every step, one is in danger of breaking a leg or falling into a gulph.—Here I found plenty of *Actea spicata*, chiefly with red berries, but some of the plants had beautiful white ber-

ries, looking like waxwork.—This is the Red & White Cohosh: the blue Cohosh likewise grows in plenty here: *Xylosteum tartaricum* is in abundance, *Ptelea trifoliata*, *Geranium Robertianum*, *Lonicera glauca*, with very narrow leaves, *Taxus baccata* or *procumbens* call'd Ground Hemlock—*Polyopodium Dryopteris* a species of *Clematis* seemingly new to me. *Satyrion repens*—*Circæa alpina*—*Chrysosplenium alternifolium*—*Pyrola umbellata* in flower.—*Arum triphyllum*, *Asplenium rhizophyllum* & what I thought the most of *Asplenium Scolopendrium*—this fern which I dont find mentioned by any one to grow in America I allways had a notion to be here; & indeed I was quit enjoyed to find my prejudice so well founded in truth. It appears to be the same as the european, only smaler; query? is the europæan auriculated at the base like this species?—The Choak cherry is in plenty on these rocks & another species of *Prunus*—A species of *Urtica* or *Boehmeria*, which I got from Virginia in similar places likewise.—In going towards Mr Geddes' house again I observed a *Ranunculus* which I call *R. geoides*. *Dirca palustris*, grows here likewise. On the old rotten wood I observed a very singular *Clavaria*.—I stood this night at Sqr. Geddes.

July 21—After breakfast I set out from here to Saltpoint;—On the road there I observed nothing but what I have mentioned before; Along road sides in general here *Carduus lanceolatus*,--*Verbena hastata*—*Cynoglossum of-*

ficinale & parvifolium. Myosotis lappula—Verbascum Thapsus—Polygonum Persicaria,—Anthemis Cotula &c. cover the ground. at the Point I crossed the marsh, to visit the banks of the Lake—here I observed Potentilla anserina—Stachys spec.—Sisyrinchium bermudiana? Cornus albida.—Viburnum Opulus call'd Cranberry tree—Plantago major—Teucrium canadense—I think this is materially different from T. virginicum—Solidago odora—Galium floribus ochroleucis, petalis acuminatis—a very tall species of Scirpus—and several other plants mentioned before. In my return I found some more of the unknown plant, which looked like Lythrum verticillatum—it had flower buds in the axillis, which by dissection showed plainly to be Lythrum, & I suppose that very species I supposed.

On the shore of the Lake I visited, several salt works are erected, which are supplied from the main works with water, which is carried for that purpose about $1\frac{1}{2}$ mile. As it was late when I returned to the point I stood there over night.

July 22. Returned to the Hollow where I examined & dried those plants collected the last two days.

23 } —It being rainy I was confined to the
24 } house, writing, drying plants &c.

25 Made an other excursion to Salt point. As I observed nothing new through the swamp & marsh, I went on to a place call'd Little Ireland or Liverpool—Here they have Salt Springs on the edge of the lake, most of them covered by the

fresh water of the lake ; there are about 150 kettles at work here : The shore of the lake & the bottom near the shore consists entirely of a white calcareous mud, which in some places is tolerable hard ; this sediment is formed of disorganized shells & snails & is the same process as, I suppose, by which in times of old our present limestone beds are formed : I sometimes thought it would be more common to see petrification or impressions on the limestone, as it really is, if it had been formed this way, by the sediment of decomposed shells & snails ; but since I have seen nature going on here, in a manner demonstrative to the eye, all my doubts are over : this sediment in some places especially a little below the surface is such a complete pap of lime or calcareous earth that it wants nothing else, than the draining of the lake, to form a very solid bed of limestone I think in a very little time.—Observed nothing new in flower to day, except the *Cimicifuga serpentaria*, a species of *Helianthus*, very common & *Ceanothus americanus*.

July 26. Spent the Sunday in the house having only this morning returned from Salt point, very much fatigued.

27. Was bussy among the specimens I expected to day a letter from Dr B. but was disappointed again.

28. Having contemplated to go & visit Oswego & the lake Ontario, as I did not find it well, to spent so much time without having some thing more interesting than to see the same thing & same places over & over again : but I was disap-

pointed by rain consequently kept close house.

29. It looking likely to get fair again I set out for Oswego: when I came to the Salt Point I concluded to go down, with one of the boats which steady go from here in the Salt trade; but waiting & waiting for one to go, I was obliged to stay over night on the point.

30. No boat being ready to go this morning, I took my way on foot as far as Liverpool 3. miles, the road was good & I was acquainted with it: here I took breakfast: & from here a path begins, cut through the woods, leading down the river to Oswego: I observed *Gerardia flava* & *Helianthus squarrosus* in flower:—After getting rightly into the path, I found the woods in respect of timber & vegetation as well as in respect of bad miry road similar to the Beach Woods: The land is springy and very rich; the path sometimes comes close to Seneca river & sometimes is pretty distant from it: the travelling exceeding fatiguing having to go for several rods round mire holes, to find a place to cross, & then to look with all precaution to get in the right path again: it is very seldom travelled, & in some places so blind, as if never a man had went that road. *Dalibarda violoides* I found yet in full flower; the flowers are exceeding handsome & neat.— I observed a *Jungermannia* not noticed before.—Specimens preserved —Nothing new.— After a tedious journey, I came to three Rivers point—This is a beautiful place—but only one house, who keeps tavern near it—here I took dinner. Seneca river from the S. W & Onondaga

River or the outlet of Oneida Lake from S. E. come here together nearly at right angles & form the Oswego River to the North. — Finding company at the tavern, in a man who was going as far as Oswego falls, with a couple cattle, having lately removed to live there; I undertook to take it through with him, through the distance of 12. miles in such bad road, at so late an hour, was rather more as I should have undertaken without it. After crossing Oneida River or as they call it Onondaga river which I think very wrongly. I found plants of *Anona triloba*, the first I seen this season; *Crataegus Crus-galli* is very frequent here, & varies in the shape of its leaves most wonderfully. according to the more rich & poor or wet & dry soil it grows in;—I had to drudge on as well as I could since I once had undertaken to go along; the man who drove the cattle was on horseback, but walked the chiefest part of the way, as it was almost as tedious to write, as it was to walk.—We liked to be overtaken by night, but were lucky enough just to clear our distance; when we came to the falls, which are but very small, I had to go a mile farther to come to a tavern at the landing place below the falls, the man who had moved there was in a situation not able to accomodate me; But though it was dark I had the comfort of a good road, as all the salt is here carried from the head of the falls, to this landing by carts. At the landing I took up lodging for to night; being in a manner almost worn down with fatigue.—I collected to day the round leaved variety of *Veronica serpyllifolia*.

July 31. This morning after breakfast, I went down the river on board a boat: This River though deep & large having all the body of water in it, which is discharged by all the small lakes, is very much impeded by rifts or ledges of rock, which go across it, sometimes for a considerable distance; the bottom is in deep & shallow water covered with aquatic plants. some of them, chiefly *Potamogetons* grow to an exceeding length in deep water.—Eels & Water snakes both of a most enormous size are the chief inhabitants of it.—I thought to have observed some leaves of *Valisneria* floating on the water.—The banks of the river are very romantick: in showing the woods & River in its primitive state, exactly as much so as when it was not known to white people. Here is no house or any sign of cultivation to be seen, untill you come near Oswego. At Oswego Rift, I quited the boat, being only a mile to that place then by land: when I came ashore I observed a species of *Hydrocotyle*, with peltated leaves, without flowers, growing along the edge of the water, my walk dit go along the shore which was covered with Chesnut, Oak, Hemlock—*Populus candicans*, *heterophylla* & *tremuloides*—*Scrophularia nodosa* in flower—*Hypericum perforatum* even has found his way to this retired place, in company of some more obnoxious foreign weeds.—Soon after my arrival & having refreshed myself at Oswego, & went to see the lake, which indeed has a noble & grand appearance, & without knowing it previous to be only a lake, one would take it for the shore of the main

ocean : The shore here is rocky & pretty high : as I wished to get something to eat & nothing had been ready, before I went, I could only make a small excursion. I soon found *Hippophae canadensis* which is a very singular shrub.—The different above mentioned Poplars mixed with other wood make the timber. *Cornus* several sorts, among which is the Osier rouge or Red Osier one, which has white berries, several sorts of *Salix*—*Rubus odoratus* in flower & fruit—*Hammamelis virginica* &c. form the shrubbery—a species of *Gnaphalium*, unknown to me, & very handsome is in plenty. *Vaccinium frondosum* & *Pensylvanicum*—*Hieracium Kalmii*,—*Solidago spec.* *Equisetum sylvaticum* &c. I collected here.—I had to wait, till nearly sunset, before I could get any thing to eat & then it was nothing but eel, which I never could eat. I had to do as well as I could, among people, whose life was very rough, & who think about nothing but making some money, by the little trade they have here, which is chiefly salt : it is a place, I dislike the most of any I ever have been at, in the United States : I was not able to get one civil man by whom I could get some information.

Augt. 1. Yesterday & to day I made enquiries about a sandy beach ; but all information I could get, was, that it was above 30. miles distance : though I was anxious of seeing such a place here, I had to give up the Idea, as I had injured one of my feet very much on the day before yesterday: The big toe had inflamed itself to an alarming and painfull degree, the chief part

of her skin having been rubbed off in travelling. I took another walk towards the lake, but observed nothing more than mentioned before : In the town, the *Hyoscyamus niger* grows as a common weed in the streets . There are several specimens of very curious granit on the Lake shore in large blocks, they are red, mixed with black, greenish black & white, they would look beautifull if worked into some monument : a small peple of similare construction I kept as a specimen. It does not appear to be any limestone in the banks of this lake, but I only seen a very small part of it, so I can not exactly tell.—My foot getting exceeding sore I concludet to return as the place altogether was disagreeable to me. I could not stay to get it well here. & so I sooner might return, than stay, as I could do nothing here : I got on board a boat & proceeded up the river.

At Oswego rift the *Justicia pedunculosa* was in flower—pedunculis longitudine foliorum, floribus capitatis, calyx 5—phyllus, subaequalis : foliis lanceolatis tubo corollæ longior : corolla bilabiata, lab : superius planum, apice reflexum purpurascens, bifidum l. emarginatum ; lobis lateralibus erecto patentes, oblongo rotundato obtusæ. Lab. inferius ovato oblongum, obtusum lateribus reflexum, eleganter rubro-purpurascens punctatum ; antheræ geminæ. I fished up several specimens of *Valisneria*, which grows in great abundance in this river. *Plantago major* grows on the banks & sometimes in the water itself with leaves so large as the *Pothos fœtida*.

I at first could hardly believe it to be *Plantago* : *Pontederia cordata* is very frequent. *Potamogeton natans*, *gramineum*, & *crispum* cover the bottom of the water in large beds. The navigation up this river is very tedious on account of the rapids or rifts : we arrived in the evening at Oswego falls where I stood over night.

Augt 2. No boats going up to day, it being Sunday, I stood at the falls, as I was not able to undertake it on foot, on account of my sore toe ; to spent the time to some purpess I got into a small boat & went in pursuit of aquatic plants. In a cove, the river forms here, I found a field of *Nymphæa odora*, beautifully in bloom. It is as tonishing in how deep water some of them grow. I pulled up flower stems 11. feet long, which did not seem to be entire nighter ;—*Potamogeton pectinatum* P. had done flowering. I observed this plant likewise last year in Virginia.—A species of *Equisetum* growing in four feet water seemed to me strange, may be it is a stem of the *Hippurus* ? *Sagittaria lancifolia* this plant was quit new to me, having never seen it before :—A singular aquatic plant, with serrated leaves, I never could make out, what this is. I seen it frequently in New River last year. On some of the stones I found a curious plant attached to the rocks under water : it is articulated & consist of green joints like blatters ; may be it is a zoophyte ! *Ranunculus aquatilis* &c.

On a gravelly Island I seen the *Lobelia cardinalis* in flower. About the shore I observed a *Silene* without flowers, specimens preserved.

Augt. 3. This morning I got on board a boat again: observed nothing new excepting a long-leaved grass which was floating on the water, the boatmen calld it Wild rice & said I would see plenty higher up: which was the case, it covers here the shore & is when in flower quit upright: I suppose it to be the *Zizania fluitans*—at any rate it is a *Zizania*—Water snakes are very plenty in this river & lay sometimes on the logs in the water in swarms, it is very disgusting to see them & eat eel afterwards:—It soon began to rain, & I was exposed to it all this day, till we come to Three River Point where we stopped & took dinner it keeping on raining we stood here over night.

4. We left Three R. Point this morning: I seen several ducks which are apt of alighting on trees; for this they are calld wood ducks; as we had good wind, I had not much oportunity of observing any water plants: all I seen however were the same observed yesterday; When we came to the outlet of Onondaga lake, the Creek was covered at its bottom with *Chara*, which the boatmen call Feather beds.—The lake has exceeding clear water & a white bottom, which I suppose consist of the sediment of shells as above mentioned. We arrived at the Salt point about noon. Having taking something to refresh myself here, I proceeded on to the point, being very anxious of getting a letter which would allow me to proceed on my journey, as I thought this place & neighborhood sufficiently explored: I

found a letter from Dr Bn. containing 10 Doll. but not leave to go on, or any direction whatever, I likewise got letters from Mr. Hart at Wilkesbarre & Mr Wagner at Easton concerning my trunk, which I intend to order to be sent back to Philadelphia, as it is only a vexation of letting it follow on.

5 } Having plenty of plants to take care of,
 6 } I devoted the first part, to it. Wrote let-
 7 } ters &c: These 4 days were constantly
 8 } raining; I was not able to do any thing out
 of doors.

9. Having no other persuit and the weather getting fair again, I went to Salt Point. I observed, besides the plants mentioned before, a species of Andropogon, very tall—*Monarda clinopodia*, as I suppose, the stem is solid & looks different from *M. allophylla*—*Hydrophyllum canadense* Stag cabbage—*Blitum*—*Silene pensylvanica*—*Chenopodium anthelminticum*—*Aster conyzoides*—*Hieracium spec.* *Hedysarum nudicaule*—*acuminat.* & a very tall large flowering sort, which makes a very fine show.—*Urtica procera* P. which I seen with Mr. Hamilton who calls it *U. gracilis*.—This evening set in raining again, which obliged me to stay at the Point.

10. Rain ail day, was confined to the house in consequence.

11. Returned to the Hollow. Being sick & tired of this place, I expected to find letters for me which would put me in a way to leave it; but was disappointed.

12. Having been informed about the tower of

Pompey having the highest land in this neighborhood I concluded to visit it, as I had nothing else to do; accordingly I set out, & arrived there about noon: the rise which the road makes, after leaving the main turnpike is indeed astonishing before reaching the highest part of it, I had a view of Onondaga & Oneida lake; the whole of the hill is under cultivation, consequently not very well answering my pursuits. When I arrived at the town every thing was in a bustle about the militia parade, for to draft the number required, towards the N. Y. militia as required by proclamation—I spent the afternoon in looking at their proceedings: nothing new this day. A *Sonchus* common almost every where grew here to the astonishing height of 10. feet & more. The ground generally is exceeding rich & the timber to the highest top of the hill is beech & maple.—Very handsome formed trees of *Cratægus Crus-galli*, I observed very frequent.—*Urtica procera*—*Helianthus squarrosus*--*Rudbeckia laciniata*—*Circaea alpina*, &c.

Augt. 13. Having been informed about a very high fall of water at Pratts Mills, I went to see it; it is about 3 m. from the place I stood at over night, I crossed several high lands, interrupted by valleys & came to the little stream which forms those falls: when I came to it, I could not perceive where it could have so powerfull a fall, as it was told me, as the ground seemed to go very gently downwards as far as the eye could reach, & bordered at the East & West or rather hemd in

by a ridge, over which it could not run, & through which there was no opening to go through; but when I came to the mill I was very agreeably surprised, by seeing the water fall down a precipice nearly perpendicular to the depth of above 300. feet in a deep gloomy hollow all at once; I was anxious of getting down to the bottom, which I with some difficulty did & indeed a more romantick scene I never beheld; the vegetation is chiefly, Hemlock & Mapple—I observed here a beautifull species of Hypnum, which covers the ground: *Pyrola secunda* & *umbellata* in great plenty: *Lycopodium serratum* & *complanatum* likewise:—Nothing new in vegetation—I expected to find some impressions here, as the bed of the brook looked somewhat like slate observed at Wilkesbarre but I turned up several stones and found none.—The rocks consist of a grey slate, which sometimes gives very good wetstones.

This hollow follows the run with very steep banks as far as I did trace it; From here, after having my curiosity satisfied I proceeded down the hill again & arrived at night at Onondaga. In my way there I observed *Onosmodium*—*Amaranthus albus*, &c.

14. } These three days being very much in-
 15. } terrupted with rain I did but little go out;
 16. } & when I did see nothing worth noticing:—My anxiety of getting away from here is beyond all description.

17. This day all the place was alive with the

muster of militia for a drafting of them. I was not well all day.

18. Having nothing else to do, and being almost out of patience of staying any longer at this place, I took a walk to Salt point, went through the marshes and along the banks of the lake, without any thing materially worth notice: I had not before observed the *Gymnocladus canadensis* grows on the banks of this lake, but I did not see one large tree of all being very cripely & small.

I found *Lobelia Claytoniana*—*Gerardia purpurea*—*Lysimachia ciliata* &c. most every body in this place is inflicted with a bad cold or catarrh which they call the influenza.

19. } Those days I spent in expectation of
 20. } letters for my departure: not being able
 21. } to account for the delay I was out of all
 patience & if it had not been for want of money I should return to Philadelphia the nearest route I could find. I wrote the 21st to Dr. B. on the the subject.—I have not the heart of doing any thing for spleen & sorrow.—On a walk I found near Onondaga court house *Dipsacus laciniata* ? Willd.

22. To day at last I received a letter I so long had looked for, with anxiety including 20 Dll—As my bill and expences here were very high, not much was left to me to go upon; but still when I am on the Road, I can make my way cheaper than when I stay at a place: I set about preparing myself immediately & beginn my journey to Vermont on Monday next.

23. This morning I found myself very ill ; the Influenza prevalent to a very high degree hereabouts got hold of me likewise, & attacked me with the most violent headache, ever I have felt, I was forced to lay down ; as soon as got somewhat over the fever, I got some Thoroughwort set up with gin. which I used very freely, bathed my feet at night, in warm water & drank a large portion of sage thee ;

24. Felt somewhat better this morning but affected with violent headache still all appetite for eating lost ;

25. Somewhat recovered ; headache ceasing : so I found people getting more & more sickly I concluded to leave this, as soon as I could any ways be able to stand the journey.

26. } Recovering some I prepared for leaving
27. } this to morrow, with the stage, as I thought it the best way in my present situation to go on with it as far as it would be in my route.

28. Having inclosed specimens, seeds and minerals in a good box which I left to the care of Mr. Geddes I settled my bill here, & in the evening went off with the stage which only goes about 7. m. further on from here.

29. This morning we passed through the beautiful village of the Oneidas ; it lays in a most charming situation. At night arrived at Utica: as the stage lays here over Sunday, I had to stay to ; which would give me a chance of seeing some of the plants of this neighborhood.

30. Took an excursion about the town, among

other common plants I observed here *Clematis virginiana*, *Inula helenium*, *Rudbeckia laciniata*, &c. but nothing worth any particular notice, in my walk I experienced the weakness which my sickness had occasioned, very much, which lowered my spirits very considerable, as I thought what a situation I must come to if I should fall sick now, & be deprived of going on in my pursuits ; I really never have been more alarmed by my illness, than I am now, which must be owing to the relaxation & debility of all the frame, which this Influenza occasions.

31. From Utica I had about 50 m. to come where the road turns off to Johnstown, the route recommended me to go, to Rutland & the heath of lake Champlain. I arrived at the falls of Mohock, where we dined about 2 o'clock ; while they were preparing dinner I took a short excursion back to the falls ; Here I observed *Verbena officinalis*, *Verbascum Blattaria*, *Mentha spec.* *Potamogeton natans* & several species of *Aster* & *Solidago* all very familiar to me ; different sorts of the more common ferns covered the rocks : viz : *Polypodium vulgare*, *Nephrodium dentatum*, *marginale* &c. Here I left the stage & took up my lodging at the tavern for night, with intentions of going on towards Saratoga on foot to morrow.

Sept. 1. From Palatine church, where I stayd last night, I proceeded this morning on foot to the left of the stage road: the road leads through a Pine woods, consisting chiefly of white Pine, & in place

of beech & Hemlock; the *Coreopsis bidens* or I suppose what is called now *connata*, got very common along the road side, in wet places. In the same situation *Gnaphalium inundatum* is common, where the water is more plenty the *Leersia oryzoides* among the species of *Juncas* & *Scirpus* species is a common grass. I observed along fences a species of *Galeopsis* with flowers different from all the European, as I recollect. *Hydrocotyle americana* is common here. After reaching Johnstown, a considerable village, I went on about 6 or 7 m. further where I put up for night.—Along the road sides here *Tanacetum vulgare*, *Inula helenium*, *Sonchus canadensis* &c. are common plants. In the valleys the productions are similar to the beechwoods.

2. This day I travelled through nothing but Pine Woods interspersed here & there with barrens of Dwarf Oak (*Quercus prinus pumila* :) nothing new. The plants in flower mentioned in the general Index. arrived at night at Balltown.

3. Balltown springs lay in a deep hollow. The situation very romantik. I expected to get something curious about this place and Saratoga.—The excursions about the grounds produced nothing new, I observed *Veronica*—*Anagallis aquatica*—*Bidens frondosa* & *bipinnata*—*Clematis virgin.* *Bupthalmum helianthoides*—*Mimulus alatus*—*Veronica scutellata*. The road from Balltown to Saratoga, goes through barren pine woods, where I observed a species of *Hieracium*

which I suppose is called *H. scabrum* Mich.—*Glycine comosa* is frequent. About Saratoga springs *Campanula erinoides*—*Rudbeckia laciniata*, several species of *Nephrodium*—*Spiræa salicifolia*—*Eupatorium maculatum*—*Conium maculatum* ? in great abundance. One of the springs called the Rockspring at Saratoga is a great natural curiosity.—The rock projects in the shape of a flat cone about 4. feet above ground, & has an aperture of about 10. inches in the middle out of which they get the water, which is about 3. feet down & makes a continued noise, like it were boiling.—The country about here is barren & not answering my expectations of finding some curiosity. The soil is full of limestone & the rocks chiefly consist of this and a species of gray granit like wake mixed with calcareous particles.

4. Left Saratoga the road through barren pine woods mixed sometimes with Shrub Oak, *Podalyria tinctoria*, *Helianthus frondosus*—*Lobelia Claytoniana* &c. nothing new. stayed over night 6. m. from Gleens falls.

5. Gleens falls are very interesting to see them: I detained myself for about two hours here, to see if I could not find something new on the rocks, but was disappointed. The *Juniperus communis* or else a variety of it grows on the rocks, below the falls I got exceeding weak & tired & seeing a chance of riding in a wagon to Fort Ann. I took it; I arrived there at night fall.

6. Rested myself at Fort Ann. Potamogeton

gramineum & natans—Humulus Lupulus—a species of Carduus with small flowers & very spinous leaves, calld here Canada thistle, begins here. It was quit new to me.

7. From Fort Ann the road leads chiefly along the banks of Wood creek—with rocky shores of indurated clay & lime stone : high hills in sight on all sides—soil very stony & appearantly poor. At Skeansborough, which is the head of lake Champlain I made a short stay to examine the meadows & banks of the lake—Lilium superb.—Iris virginiana—Sagittaria—Mimulus—Viburnum nudum—Lentago—Cephalanthus & some more common plants mentioned in other places—I arrived at Fairhaven at night.

8. The white pine is here the chief timber ; I observed here in the woods a species of Willow new to me. All this day I travelled through cultivated lands, on the side of the mountains, when I came near to Rutland I passed the Ira mountain which appears to be a very interesting spot, & though necessity forced me to go on, I was determind to return to it some other day to ascend it. The timber is here chiefly Hemlock—Pine—Spruce—Beech—Poplar—Sugar Maple &c—no Oak. Arrived at night at Rutland having travelled all day in the rain & fatigued myself to the utmost.

Sept. 9. After enquiring in the Post office for letters for me & finding none, I took a small walk about the town. Observed nothing new to me, the road sides are covered with Canada

thisle & Verbena hastata. It having not quit ceased raining, besides my not feeling very well, after getting so very wett yesterday I was obliged to keep the house & rest myself; Killington peak which is said to be the highest part of Vermont, is in sight of the town & makes a respectable figur. I wrote a letter to Dr B as I am destitute of cloathes & the weather beginning to get very raw & cold I will not be able to stay long here unless I get means of buying cloathes fitt for the season.

10. It clearing off very fine but the air very cold; a very bad cold makes me afraid of having a relapse of Influenza, I felt so ill, that I kept the house most all day.

11. Feeling somewhat better, I dried how a good exercise on the mountains might agree with me; I set out after breakfast, the foot of the mountains begins about 2, m. from the town. In a Hemlock swamp I found the *Cypripedium canadense* or spectabile, *Orchis bifolia*,? *Nephrodium Dryopteris*, *Vaccinum hispidulum*. This plant had beautiful white berries like wax work. I dont know whether this plant allways bears white berries or not as I am but little acquainted with it. Most all the plants & shrubs mentioned on Pokono mountain & the beachwoods grow here. In ascending the mountain I found *Epilobium angustifol.* in flower & seed—*Aster surculosus* which I observed last season on Salt Pond mountain grows in plenty here. *Aster flexuosus* &c. & several species of *Solidago*,

among which the principal sort is *S. canadensis*. I ascended a very high ridge, near which one of the peaks is, but feeling weak & too much in apprehension of being obliged to stay out all night if I should attempt to ascent it. I deferred it to another day, when I might be better in health & more provided with cloathes to stand the cold weather over night I took my route over the ridge & went a north course along the side of the mountain, for about 6 m. crossing a number of wild mountain creks & brooks seemingly very interesting for plants, but the season is too late every thing worth notice has decayed & disappeared already, & the few plants I took notice of I had seen in abundance before. I arrived out of the woods in a road which leads over the mountains & took up my lodging the first tavern I came to.

12. Returned to Rutland again I had collected yesterday a very singular species of *Equisetum*, which appears new. The *Medeola virginica* has here allways a red centre, which Mr Lyon took for a remarkable variety, but I believe it is always the case, when the berries are ripe. Along the main street of Rutland I found a species of *Artemisia*.

13. Rested myself, very unwell all day.

14. The morning very cold: I took an excursion to Meets falls. *Hamamelis* in plenty & beginning to flower. I observed all the flowers to be hermaphrotides, *Quercus alba* in a dwarfish state: Oak timber is very scarce to be seen here-

abouts ; *Viola debilis* in flower ; *Ilex canadensis* —A species of *Prunus* like *P. acuminata*, &c. I returned to Rutland very ill disposed ; cold & without cloathes & money & no letters arrived made me more sick, than I actually would have been.

15. My illness turned out into a fever & bloody flux which alarmed me very much in the present situation.

16. Very cold night & morning, Killington peak was covered with snow ; which stood all day, though the sun came out for several hours.

17. By using several medicines I got so much better of the flux that I took a walk, I chewed most all day the tops of the branches of Spruce, which seemed to do good to me : *Populus candidans* & *balsamifera* are planted in the streets of Rutland, & grow about here frequent. I observed the *Verbena hastata* to be a truly didynamous & tetrandous plant Got somewhat warmer to day.

18. Took an excursion towards the mountain. *Aralia hispida* in berries —*Ilex canadensis*—*Orobanche virginica*. Observed *Aster infirmus*—*Circeæ alpina* *Xylosteum tartaricum*—*Gentiana saponaria*—*Aralia racemosa* &c.

19. Staid in the house, worn down with sickness & vexation of mind about not receiving any support whatever.

20. However disappointed I had been in former excursions I wished to ascend one of the highest peaks in this part, I went about 7. m. from

here to one, which is calld Pico. Arrived there in the afternoon & spent the rest of the day on the foot of the peak, to ascend early in the morning.

21. With a great deal of fatigue I ascended the peak, the morning very cold & damp Observed nothing new; the Hemlock & Spruce towards the top are of a cripplly growth being depressed by heavy snows & cold air & very difficult to come through My expectations being not answered I soon descended & returned to Rutland.

22. Seeing no other means of getting away from here, than to contrive some way to get money to go on with, & pay my reckoning here, I with great reluctance sold my fowling piece this day; God knows whether the money will be enough to bring me on but I must rough it through as well as I can.

23. This night I received at last & almost to late a letter; my mind has been made up to return as quick as possible to Philadelphia & I will do it now, the letter notwithstanding.

24. Left Rutland.

25 Through Timouth to Battonkill

26 Arrived at Troy

27. From Troy to Albany & Baltimore a small landing place.

28. Come to Cattskill

29. When I came to Kingstown I took stage to New York being to much tired to go on longer on foot.

30 On the road to New York.

- Octb. 1. Arrived at New York.
2 Rain
3. Seen the houses of the Botanick garden at
New York.
4. Left New York with the Packet.
5. Arrived at Philadelphia wharf after 12.
o'clock, in the night & staid on board until the
6. when I went ashore.

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