3003 Locust St. St Louis April 30 '72

My dear Pary

At last I hear from you again! And it was very necessary that you should have written, for I had lost all trace of you, and was going to publish an inquiry for you in the papers! I had, to be sure, two letters from you, but as I did not answer at once, I was never sure, since to strike in your nomadic life. If I had known you was sick in bd. I of course would have sent you a long medical letter! Better that it is not necessary any longer. —

Hell dear a was Lovely Texas thought

It would not have been necessary to introduce Arnthobia to open the sluices of my intellect. I would have written anyhow.

but if I get more news about Ar. I shall be perfectly happy & perfectly happy as perfectly as a poor struggling botanist can be, also — one difficulty is settled, sees a dozen others rising before him like worrying, threatening ghosts! And I dont know with the exception of Abies — as you are going to roam among them! —

A. Menziesii has usually stomata only on upper side of leaf and is white there but your Colorado sp have stomata on both sides. Always? They are easily seen with a glass.

A. grandis & Colorado has often short acute leaves on bearing branches amongst longer ones on low sterile branches. Always? Get the branches of young or young trees with longest leaves and those of bearing branches. A. concolor, Santa Fe Ferdinand, Sandia Mts Bigelow, Wasatch, Turkey Canyon ought to occur very large on highest Rocky Mtns. I should go myself and watch myself leaves near ground above; same glaucous & stomata on both sides, more emarginate Alois & Arnett! Yes but a young practitioner, like me, must watch and nurse his growing powers

Clarke is so apt to slip away from him! Next year — when George is here — but next year there is no Pamy, no Guy, no Hodder about! Oh me!

You will find in Glens Falls Mrs Lucy Millington, who will direct you to Arcuthobium. I wrote to her a few weeks ago, but have not heard.

Most species fl. in fall, but this one — from the state of ♂ fl in Oct & Nov. must bloom in spring. There are many things to watch

Young plantlets of last spring looked last Nov (and probably now) like a little brownish green hemisphere ½ line in diameter & half covered by a shred of bark. I saw them only on branchlets of the year before (1870); on the branches of 1869 specimens with fl. buds were seen and such with ripe fruit only on branches of 1868 or older.

Does the plant really fl. in spring? does it only germinate on yearling branches? Does it die after

Fader
Bigelow
Arthur (Arceuthobium americanum)
magnitude

bearing fruit (3d year) and males after flowering? Or — as I suppose — do most plants die after once flowering and a few survive — are these few only females or also males?

And now another question: Thus far I have seen males & females entirely separate, on separate branches or trees but in colonies together. Is that always so — or accidental?

And at last: don't get, "more one," a mult fragment — but get numerous specimens and good ones, with the growth of several stages — years — on the same specimen — if possible males & females mixed (which I have not yet seen)

The females must now be in flower (having shed fruit last fall)  a two lobed calyx, with a little obtuse stigma between them. The males have a trilobed calyx  with 1 cell & anthers adhering to lobes.

Now your answer before or after the Adirondacks, will be welcome and elicite more (letters? demands? — requests, from

Your

G. Engelmann

housecleaning!! oh!!

Well bearing a year and males flowering

St Louis May 7 72

Dear Parry

I wrote you a week ago about Strawberries. Today I get a box specimens (Cranberry) from Mrs Millington they come from near Warrensburg but she lives at Glens Falls!

I write to day again announcing your visit, and putting several questions, which in short I will repeat here.

The ~~specimens~~ are all male or all female on one branch. Question is that always so — and how can it be so? Males seem to predominate.

All flowering now — (for they are actually spring flowering!) are on the 2 year old branches! Is that always so?

Do they die after flowering, or bear occasionally flower twice?

older brunches with living plants on them would be necessary to study. —

I also got a letter today from Wright who sends a gramineous fragment which seems to indicate a second species of Beechloe (Cuba) He enquires about you — you are lost to them, it seems.

In haste —

Anxious to hear from you!

Yours ever

G E

St Louis May 22 1872

My dear Doctor

They have come — the mysterious Mistletoes, the Siamese dwarfs; but why not more, when you was among forests of them! I would have taken whole trees of them and made the whole botanical world happy with specimens!!

I ought to have kept a list of the questions I put to you and others as regards them. You say, you have not answered them all — but I now forget, what have remained unanswered — what was it? My memory begins to play!! Getting old?!

One question is confirmed, thus far — no two sexes on same tree. But careful search must show, whether

that is always so. —

I have come to the conclusion that seedlings are extremely scarce, and would hunt for very young trees with the first scattered or single seedling. I have become satisfied that the plant propagates like a fungus, by rootlets, stolons, minute fibres, under the bark, from one joint to the next younger one, and thus the uniformity of sex and the great abundance of ~~these~~ individuals only can be explained. The microscope will have to prove it! I am satisfied, if once a single individual has settled on a spruce they actually grow like a disease. It seems to me an important fact in vegetable physiology and biology. Which the theory in the Atlantic for the same possibility!

You have occupied my mind in another way! I had not mentally studied the seeds of Yucca as

Agave, I mean the microscopic characters of the surface, and I now find very nice characters there. When the A. Parryi seeds sent last fall from Davenport got into my hands I ejaculated: Has the — — — — (Please supply any epithets you choose) foisted old Yucca seeds on me! So much like those on the surface. But I soon satisfied myself, that I did you a grievous injury. Your seeds are real good Agave seeds — are identical with Lemoy's (Oct 19 1846) but very different from Pelaez's. These are the 3 Arizona Agave seeds I have (— besides Agave heteracantha = Lechuguilla and A. Utahensis) but where the different flowers belong I can not say! — Well, the Rail road will bring people there, who may collect and observe. I hope you have "Leisure" in Davenport, and will write me more in detail about Arizona.

I am glad you found Mrs Mattingly and was pleased with her. It does one good to find enthusiasm. That tramp through the snow on Dec 2d has completely gained me!

Did you get both my letters?

Yours truly

G Engelmann

St Louis 30 May 1872

Dear Parry —

That is a bright idea of yours, that I should come to Colorado in August to meet you and Gray there. If the woman will permit me (I do not mean my wife) it could perhaps be done. We shall see. I am quite electrified!

Today together with yours came Mrs Millington's letter with the announcement of another batch of A. Good! And the interesting notice that the male plants are already falling away! Yours advice to plant seeds is good, if any one is near enough and careful and patient enough to watch. — Miss M. seems to be in rather straight circumstances. Can you tell me anything about her?

Will you watch the A's in Colorado? You know there are 2 species, one Engelm. Bourcerie or A. ponderosa and a slenderer more branched, greener one

on P. contorta. Mechan found O & G of the latter on one single branch — but usually they seem to be separate & like the NY plant. All other N., but this NY, are a sort of shrubby, i.e. persist several years. You ought to get the oldest and largest you can find, and trace them from oldest (how old!) limbs to youngest (or how young ones?) and find the little buds (budding plants) such you have seen in Nbis sign. — By the way, by boiling the branchlets a few minutes, I succeeded in saving the leaves from falling. — Well if — if — I should come to Colorado I will try and look for myself — but that if! —

Mr Meier has gone to California but is expected back this week. I will attend to your wants, but am a poor inficient beggar.

What about that Wheeler Collection? who is Wheeler? I must write to Palmer, or to Vasey.

Yours truly

G. Engelmann

St Louis, July 14 1872

My dear Parry

Day before yesterday the Arcanum, and yesterday your letter! So you live, and don't forget or cast me entirely! Though my letter to Davenport remained unanswered. I thought it lost!

A Czar with whom I became acquainted in Rome is a good friend of mine and bringing my "clients". — His invitation to go with him in a special train & car etc & with heavy heart I was unfortunately obliged to decline.

My wife is afraid she would need too much "finishing" in Empire city rabbi, don't forget you that like George Brick, but hope you may come here on your return where we can take better care of you than at Elm & 5th!

Well, what do you say to my last raid into Yankeedom? There you passes etc — I recommend him to you.

Highest pleasure since instant to Magnetic Springs. Colorado. Very cordial

They put us self satisfied about all theirs — albies among the rest. Now, I asked, what is all your A. bassana? You (and I too) worry about A. grandis and amabilis etc and you don't know your own homegrown balsamea — and as to fraseri, that is almost a myth. — I have now sent out missives north eastward to gather — & study these species — but Porter, one of those I addressed, will be among the grandis sooner than among balsamea! He passed here with a Pennsylvania party a week ago — & must be in your region now — hope you will meet him. I missed him here — be at my house while I was at the hotel. — But to return to balsamea, the form & size of cones, shape & proportion of bracts and scales just as variable as in the western species; also leaves of sterile and sterile branches. The former as much as I have seen always sharply acute. Which these things again in Colorado grandis

though I believe I have good material from you. But if you find a good tree (pollard), examine and collect fruiting branches with (remnants of) male aments, and lower sterile branches of same tree — in the first lean specimen — acute in your old specimen, in the 2d obtuse, in the last I suppose emarginate. — But is that always so?

Any transition of A. Engelm. to Mexicana? Hall's Oregon sp. seem to indicate something like it. — Hall was here last week, for Texas — disappointed.

But now for Arizona. Your sp. were of great value. They are just flowering; flowering period therefore earlier — in June? and do the fruits develope from June to Sept? or do they take 15 months to ripen? I judge so because a sp. coll by Fendler in Santa Fe in March had young fruit. Try to find out. If it is so there must be now very young and also maturing fruit on the plant — and later in Aug or Sept very young and also (on other plant) mature fruit.

the fruit is at first (all the first years in Sandus even in March) erect, peduncle enclosed — then does it lengthen and curve so as to show a pendulous fruit? — You probably will find both stages if the fruit is biennial (i.e. 1½ years maturing.

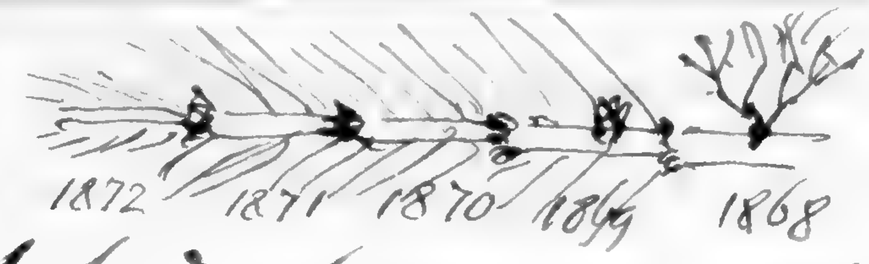
2. Are the plants strictly perennial, flower several times, or as in the N.Y. plant only once — I suppose the former, but it requires investigation at different seasons. Your males which now are just flowering could in the fall sprout again or show (in winter) new flower buds.

3. The subterranean base of the plant seems to push new shoots — therefore the fasciculated appearance of old plants. — and to do that for many years — On how old limbs does it grow? i.e. persist 10–15 years old?

4. And on how young ones is it found? You know in the N.Y. plant which perishes after fructification, the plant is only developed only on branches of the 4th year, or in 1872 or branches of 1869.

Now in your single specimen on Spondylosa which is complete (the other is incomplete) I find 1, that the leaves persist 4 years and that 2 the parasite blooms just below

the Contest lies



as I have sketched here, on the axis grown 4½ years ago, 1868. But on the next shoot of 1869 I find buds which will probably grow up this year in a flower next. Watch that!

The thing creeps under the bark upwards, and seems to develop regularly every year in a higher or younger part of the branch. Watch that! Then I suppose that in the fall you will find this bud on branch 1869 now developed, ready to bloom in 1873 (and mature fruit, if female, in 1874?) and on branch 1870 you ought to find the first rudiments, a little knob, as you have found them in N.Y.

Then you see that I have nothing but Mein & Arnottoli to ask about — but a good deal about them, especially the latter. Send to answer well and conscientiously requires a good deal of patient investigation! Do you understand?

You know that on P. Contorta you find the other species, Arnotti.

Umbrannum, — which ought to be studied in the same careful manner.

Meehan, last year, accidentally gathered in Colorado a branch of Contorta with male & female together on same axis !!! look out for that in both species!

Yucca is a queer thing. The stigma is a tube which leads into the ovarian cells, & only fertilized if pollen is rammed into that tube; this is done by a moth which also lays its eggs into the tube, and the larvae of which get no sustenance if the ovules are not fertilized; so it has to perform that function & pile the pollen on the egg !!!!

Break a little into your "mors" and collect largely of Arcuthob both species — & both sexes and with dates (not like Hall in his fine Abies grandis Oregon specimen, throughout the season mixed !!).

Question? when does the Contorta Arcuth bloom — and is it also ripening fruit in 2d year etc etc — All questions same as in the ponderosa sp.

write soon! Yours truly G. Engelmann

Ottawa Ont. 25 1872

My Dear Lang

you are now getting into the harness and begin to work faithfully. What a deluge of Amentiferæ! Many thanks — hope they Catkins have reached you and the A. of P. ponderosa will also be attended to. The few specimens sent are instructive but not exhaustive. You must pick oyzens — I hundreds and intelligently examine them to be able to get at the genera facts.

Well, you have my questions about A. ponderosae as I will for the present call it, now for Abieticinum (of P. contorta) ~~Sent~~ Before proceeding I must tell you that you seem to mistake the sexes, and to settle this I enclose pagnat. The specimen & the letter from Zinch

branch is all female. (though you say: Spec. — enclosed here the two sexes near enough for practical purposes.)

You seem to take for ♀ only those that have fruit, and others for ♂. But I find 4 different stages:

1. female with unripe fruit — to mature probably in September. This you know and I need not send it.

2. female with young flowers or flower buds or very young fruit — difficult to say which. The

2 lobed perigon, & stigma

3. dead males, always yellow and drooped looking

4. young males with very small buds, but in which I can already make out the 3 anthers.

Of 2. 3. & 4 I send fragments.

Now the question with me is: when does it flower? When will No 4 come to flower and when did No 3 flower? I must add that I got the plant generally with large flower buds, gathered in Summer. Mr Meehan found it in full fl. in Colorado. I think towards of August? but if so, should No 3 remain on the trees for 11 months?

You say the plant decays after fl & fr. — but I find often, what I take to be young flowers on same branch or stem as immature fruit. One of the specimens of 2 bears a fruit. Now, are the "young flowers" on such branches only unfertilized old things, or really fl. buds? On same stem as fruit?

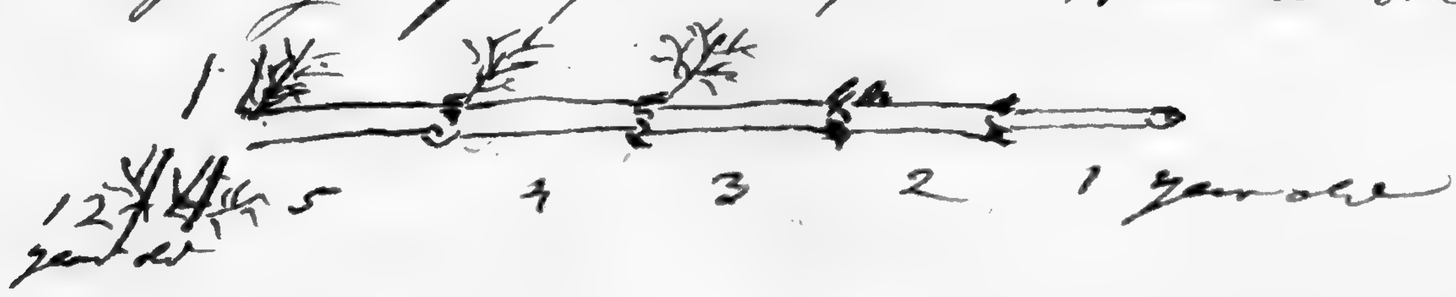
The plant decays down to its perennial subcortical base, from which for 20 years and more new stems may spring every year.

Only a single of your specimens had Q & ♀ on different branchlets; all the others diœcious.

In almost all your specimens I found only a single patch of the parasite, nothing on the upper branchlets; in N. of the Adirondacks we find always most plants maturing on the 3rd year old parts, and new sprouts on the 2 year old — very rarely plants on 4 or 5 year olds — and then always scattered.

It is so interesting to follow the mode of life of these obscure plants. — Well, these biological characters do not seem to be absolute, for in a single vigorous specimen

of yours I notice on all branches (4 or 5) this creeping propensity. Here is one of the



branches of this single specimen; the old branch, 12 years old bears abundant parasites; the lateral branches, 5 years old, have them always only just above the base of each years growth; in the joints that are 5. 4. & 3 years old, I find flowering specimens, but in that which is 2 year old or rather in 2d year I find only small buds. Is like long —

Thus, if my present observations are correct, I find in A. ponderosae the first sprouts coming out on joints in their 4th year, A. pusillum. on joints in their 3d year, and in A. Americana on such in their 2d year. — Is that always so?

You say, "mostly on young shoots but occasionally on trunks 5 years old" — Some of your own specimens show 12-18 annual rings! But how old may a trunk become and still bear the parasite.

2/ I write in my office in town and must use what paper I can lay hands on.

Well, I have then already asked on how old branches the parasite (either species) may persist? 20, 30 years?

On how young ones are the first trees found? According to the above specimen on branches in their 2d year.

When do they flower? — They evidently ripen the fruit in the 2d year — while the spring flowering A. pusillum matures in same season.

Do they all or always die after fr. or do they or at least the females bear fruit several times? I doubt about A. Americana, but it may be in A. ponderosum. —

I have had again fine sp. of A. pusillum from Mrs Millington, and have now traced within the tissue of the bark the cellular strings of the parasite running up the joint. —

How do may the fructiferous stems of A. ponderosum grow? how many generations of fruit may they bear? — The subcortical base in all seems persistent many years.

If they die after fr. as undoubtedly A. pusillum does then there is a time (for the males after fl. for & after maturity) when all fall off. How is that?

I do not know whether you have patience to examine into these matters! But I hope to stir you up.

As to my or our coming — that is out of the question this year — but I have had good lay my patients, especially the

dear creatures.

And now with these two letters you will have enough to look after!

Yours ever

G. Lindley

Here you get a letter full of emendations and additions
Hope you will be able to make out.

Washington Aug 2 1872

Dear Parry

today I got your letter and package. Thank, and many thanks for the numerous and nicely turned compliments "more so"

The wise-acres, Torrey & Gray named that Shr weed afterme on account of its unpromising rough looks — just as they named that other plant Parryatta cabrera to the great disgust of the doctor, while I, meek, modest man, had no word of complaint to say. Well, Gray did not get better off with his Grya spinosa an ugly greasewood shrub of Utah, "Rabeat sibi"; I hope though he is not as gray yet as his Grya. How much better the noble and distinguished Torreya! you know Charlotte takes from me your Hair — but we will fight him. My doubts came through a fruitless California specimen of Brewers and through Hall's Oregon plant — The former I had considered Mengiesii acquatipolia the other has Cones peler and longer

some doubts, or other Conifer and
Mr. Lyall with me found Brewer's specimen very unlike ours — Conifer

than Lucifer, and intermediate between your ♂ & ♀.

That is a good joke your cousin overhung by a Dracontium! Well, you can watch him every day now! Much as I did say Yucca & agave.

Well, in 1861 you sent flowering plants, but "more seed" without date! Any moll. of date? June? Now, you were too late for the flower. It would appear, then, in June.

The difference between male & female which you state and which your specimens seem to prove — the sedentary habit of ♀ and the wandering of ♂, is curious. Do you find it regularly so? Never sedentary ♂ on older plants and the flower in ♀!

In your specimen, now sent, I find the growth of 7 years, the present being the 7th.

♂ in the part 7 years old have evidently flowered lately and have just fallen off — on the 6 year old part of

Dat night, 7th, 1862

Geo

as it they are now developing ready for next June; or the 5 year old I found as true — nor of course further up.

flower in 1872	you plant t. flower 1873			
Sp. sent 4 weeks ago	1868	1869	1870	1871	1872
Sp. sent now	1866	1867	1868	1869	70. 71 72

See the difference of both Sp. and by you the certain rule therefore? Send a number of males and examine them yourself! Take care not to cut up and follow the stolons(?) under the bark.

~~The question~~ The male then falls off and disappears after flowering ~~early May or beginning~~ in June and dont sprout again from subcortical (not, as you perverit it subrootical) base. Do I write so illegibly? The ~~and~~ female does sprout from base, but do female stems persist and bear more flowers the following year? Many other Arcuths do! — What I

Send a few specimens of the fruit to Mrs Griffith, it will please her much.

and what only will suffice. Surface of Cart, Rich is quite rare in Cayton

point in your descriptions and have stated before, i.e. that apparent flowers (but may be abortive, unfertilized of year before) and fruit are found on same stem.

Take them to flower i. e. ripen and fruit to ripen second year i.e. 16 months so that in Sept & Oct you would find ripe fruit & young fruit on same stem in Mr. Ch. Knowl. That Gardner found fruit ~~much~~ half grown in March and made pl. beds, you will find these about in the fall.

not "more so"

Get plenty of good specimens, also late, ones with ripe fruit

My last letter on A Stevenson you will now also have

Can't come — second Lady with cake — Sorry! Perhaps next year

We are busy trying to pay — we hope to have

[illegible] here a few days

Ask Gray tell you that Dr Torry is not the only prominent botanist. Dr Hooker does stand too high to be seriously troubled, as the Liverpool papers tell us, now. That is probably the reason he dont come.

yours ever G. E

Miami Sept 4 1912

My dear Parry

I suppose

that I did grumble: some

about your silence — However

however that Gray was with

you, and your time limited,

you should however have

indemnified me by a full account

of your and Gray's doings. And

how did Mrs G stand it — did

Gray top? etc.?

Your letter with Arnett came

to hand as also the paper on

Combustion Speech.

Well, have you made out

the real flowering time of your 2 Mt.?

Shall we say June? or May?

for A. ponderosae. And what for

A contortae? August? Mechan

collected it last year May 15 in buds as you

Did you see Lely, Kinsfather & Septemia?

I hope so, they are quite good specimens of Californian growth (Sierra & Monterey), gathered May 27 — quite likely and fresh gathered & good to see both this and yours side by side fresh. —

Gray is right to admit his mistake, if we prove him wrong — now then? And we expect to do that!

I just had your "Abies nigra" cones from Minnesota in my hands — they are true albies — and if they look like the Engelm. I know nothing to tell you, I rather think that connects nigra albies and Menziesii. "Connect" is a dimension sense.

Menziesii is close to the small shortleaved balsamea, but albies and close together.

Gray was in Dresden, but I have not heard nor seen of him.

Did you meet Dr. Porter?
I missed him here.

The other day an old
invalid — Cooking chap came
staging he had found me out
The fine Yucca angustifolia
from my window, & he proved
to be Roezl, the Bohemian Vine
Grower. He was last year
in Cuba, just come now from
Berlin & London, crossing the
Continent and will be in Vienna
again next October.

He intends to send a wagon full
of Y. angustifolia from Colorado
fine plants, which will sell well,
intends to gather the seed of
this Cosmolar on the Mountains
of Santa Fe — it is the
most active and enterprising man
I have met for long. The
fellow talk, if he has work

Pinus ponderosa — and the creeping protuberances of the male strobili, of which I have repeatedly discoursed, and which can only be settled by seeing many plants: — Do they open on same tree — or do they prefer different trees?

accomplished so much already. He gathered 10 years ago, when the English Abies fir Conifera was at its height, 40 or 50 forms of Pines in Mexico, named (and sold!) them, and of half a dozen species, which grow in Mexico. And I believe we must reduce the accepted species yet!

I am very near finishing letter, after you the book open up, then your last received just in time!

Yours truly

G. Lindheimer

Writing soon, and extraordinarily numerous and old questions!!

Gather a few cones of each, stick up, and bottle seeds — you need not trouble yourself with drying — carefully and carefully nail!

St Louis Sept 14 1872

My dear Parry

A few days ago a bundle came on which I recognized your handwriting and in which male & female Ver. Americanum on Pam rezlorta greeted my eye.

But what was my surprise when I found them pretty much in the condition of those sent 4 July! flower buds nearly ready to open, anthers and pollen developed — but still closed — while Mechan last year got them with open flowers in August?

Do you send me old specimens plucked weeks ago? This shrivelled and dry condition almost makes me believe so. Or specimens which you recently picked from a tree

pelled weeks ago!

No line of yours — nothing to explain!

I wrote to you Sept 4th which I suppose got into your hands soon after you sent the package.

I hope you will appreciate exactly when the thing flowers, August and September? different in different climates?

I had a letter from L. Wilson today from Cambridge. The Grays have safely and pleasantly come home. Gray, however, has brought back green notions as to Conifers! — You spoke of that also. — What else can it be as an identity of P. contorta with Banksiana? P. monticola — Hooker & Engelm — albe

and the grounds with Falsomen,
well, I hope he will write
me about it.

Nothing new from here.
I hope, when you return
you will make it possible
to spend a week or two
here with us — We can
accommodate you better now
than on 5th Street.

Yours ever,

G. Engelmann

Dr. Engelmann

St Louis Sept. 20 72

Dear Parry

"Yours of late date received contents noted"

How satisfactory! Late date?

Does it mean my date Sept 4th? Since I put a number of questions — or Sept 14 in answer to the sp of A American in bud just rec'd without letter?

I can not do otherwise than propose questions — whether you will or can answer remains with you!

Thanks for the "A. rugosa" of Appendicula, I suppose! How do you get that old disorder mania of mine? Pray?

The specimens are valuable but again puzzling!

Yes, the fruit are mature & dropping off — but (you probably not notice) that discharging seed at the base of fruit.

Many fruits were empty!

particularly with base of fruit remaining a short time. They seem to discharge seed before dropping. Of the European species it is said that the seed is discharged with some force (contraction of fruit) and thrown some squirted little distance.

Such regular opening of fruit and discharge of seed I had not seen before thanks!

[illegible] ill [illegible] 1[illegible]

[illegible] ♀ [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [

Dr Engelmann -

Mount Pt 8 Wk

My dear Gray.

I've spoil a letter

(I cannot see) and you shall have it

when I come to see you. I find the 2 pure

specimens you may to hand — I had

one from probably in Oregon, and first

all about Texas. I, I cannot say

we need, for your watching Mr.

is over and no praying will bring

it back. But really have you

never seen flowers, or at least in cases

May in flower in bottles — they are

very as good as others in bloom.

Jupiter!

I gave letter, July 28 in reply to

till we get the Herbarium off. Now

you abus. you promise "daily

or weekly "reports" and a cartload

of specimens." What has become

of these? Shared and fair?

Just have you to say about the

and "instructive" specimens? Do is

[illegible] wonder [illegible]
[illegible] again [illegible] a
disgusted it seems with [illegible] at
[illegible] [illegible] [illegible] [illegible]
if it was a member of Congress. But
was again only refer to the
[illegible] [illegible] [illegible] [illegible]
[illegible] correct [illegible] [illegible] me.
[illegible] attempt [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
"subortical" perhaps [illegible] would have
been more accurate to [illegible] intercortical
[illegible] [illegible] thank you for the compliment
[illegible] [illegible] more [illegible], grateful [illegible] [illegible]
[illegible] bitter irony [illegible] [illegible] inspire
our entirely two places.

Yours of Sept 28 & Oct 1 [illegible] at
[illegible] together with contents, the cartons
is yet lagging behind!

Terry & daughter were here
yesterday a week Saturday but
[illegible] me the fine sciences, we
[illegible] our conscience with us when travel
ing". — You was of course right
spoken of [illegible] in regard to point [illegible]
[illegible] committal. [illegible] [illegible] have
written a long letter, [illegible] [illegible]
all positive.

A repeated careful examination of Arceuth. ponderosae exhibits

1 female specimens bearing young fruit (evidently given the flowers of last year and going to ripen this fall)

In the same spikes (same axis) with the fruit I find here and there a small, abortive fruit, always of a dull olive green colour, and almost always other lateral spikes (secondary axes) with flowers, or just past flowering, always deep brown

There is therefore no doubt, that the female plant will bear fruit & fruit at least twice — though the second crop bears only one

2, female specimen of vigorous growth, but showing no flower-fruit only buds — which evidently are going to flower next year, and will show their buds already this fall.

I suspect A. Americana follows the same law — (also as to sedentary & migratory ♂ ??)

It is not improbable that the fruit bearing branchlets fall off, after maturity, leaving the old stem with new flowering branchlets —

Try and get as thick an old stem of ♀ as you can, which may have existed and born fruit for many years. On how old branches does it still grow and flower?

Further careful perlustration of the sandy ♂ seems to leave little doubt, but that the males do not all fall off, and to some extent or sometimes produce new lings like the ♀

Your specimen of St. Omer of 1862 are very much larger, 4 inches high, very divaricate — ♂ flowers all in bud yet — the plant must bloom later August or September! Which!! (will I add: and pray?)

Meehan last year collected a specimen of the same where ♂ and ♀ grew on the same patch. Must be a rare and curious accident!

I must repeat, what I often said before, that some species of Arceuthobium form the flower buds in the fall and develop them the following spring (A pusillum) or summer (A pondersosae)

Yes Yucca moths and Arceuthobium have almost killed out Amphipsis in this part of the country, and will appear [illegible] if [illegible] bigger and bigger. — But no, experience & [illegible] research prove that [illegible] are [illegible] parasites. They [illegible] is so hardly ever thought of — [illegible] out of sight.

I hope those other diseases mentioned above will follow suit — only, alas to [illegible] the territories to [illegible] [illegible] [illegible] [illegible] [illegible].

I have never got the specimen of Grandis you spoke of.

I forgot to tell you that the plant
sp. of which we have a new species agree
above the fact in the condition in which
I received the plant (I feared it
in Wash) A cryptopodium 6' long &
by the fruit creeps out of its crypt
terrestrial cover and becomes A
Cacospyloopodium !!

Prof. Alleghenensis believes that
sp. sp. ok see notes approach
the glossy smooth, smooth & silver
but it is true that the scales of N.E.
2, in the valley and on young trees they are
[illegible] or [illegible] [illegible] They are
long produced, & thread [illegible]
[illegible] (in column also
[illegible] in fact the [illegible] [illegible]
it. Dall and I believe Thisele
[illegible] [illegible] [illegible] are
[illegible] difficult, but believe [illegible]
[illegible].

Yes come to spend a week or two
with us

Yours truly
G. Engelmann

Dr. Engelmann

S 1872

Dear Eng

Now, I must hurry to write — or else my time may not find you in D. — off — again! Yesterday Miss A Cam asked my me your address, wish to send you visit again. And I suppose you will go, thought no botany may be in it. Hope it will take you to St Louis, at least for a few days!

Have also had Mueller here for a short time; he will make an a drawing of my new S. Carolina Pine — "P. Engelmanni" — one you from him made many days ago.

I have not been able to work in botany for a number of weeks, too busy and too much harassed.

Thanks for the concession of

"squirt" and "instructive" The former I do not quite accept, as it seems to be used only of liquids. Some linguists, whom I consulted advised me to apply the word to any one who dared to question the pure English of that monosyllable!

That "perspicuous" hangs on, does it? With it would hang on that man in Washington.

But you beg to be reminded that Gentian. That is a little treasure and deserves to be named after you but as I have already a G. Parryi how would it do to christen it G. Wayellii ??

Fearing, however, your objection to this proposition I may name it G. productus. You have noticed that the fl is de pasted and that the calyx is divided nearly to the base, the lobes being produced or appendiculate at base. It is quite distinct from G. acuta, but

approaches J. campestris and still more my G. heterosepala, both of which however have a different ovary and unequal calyx lobes. I take it to be a very distinct thing. Have you more of it? or much of it? — I expect — more so — not! No fear! No! no!!

So Gray sold you — as you say "more so" — Seed is cons in bulk but it is better preserved — so the horticulturists say.

(Both your Davenport letters Oct 10 & 22 are before me and the question is discussed.

If you do get stupid fragments I beg for a live specimen I have quite a little fancy (if you allow the word — I begin to get afraid of your critical acumen)

No, I have wants no food for worms, got enough to last him some time. We have no one else to make collections here.

Mrs Millington has found her growth

"ejecting" its seed with force, while in her hands — thanks and yours for the St. Thomas seed sent her by you. The Abies grandis you sent as also the Australian has arrived at last from Davenport or Empire?? Those done up cones I have never got — (were never sent?)

Your St. Eugenia albiflora looks not at all like alba, but Gray sent me a cone which might puzzle — but I think we will have no hesitation, difficulty. Your specimen has solid ◯ ◯ dehiscent, like Eu. Myrtifolia; some rounded, others truncate. Gray's cone is scarcely cone or dehiscent.—

If that Guatemala has been "troubling you for the last 8 years" why did you not unbosom yourself sooner?

"What I know about" Greely? "Intorta"? About the former I know that he will be here* next week, according to the good rule of bad against worse or "worser" if you

* Specially to see Dr. Asa Gray's cactus, and Mr. Sargent's "Silvics of North America"

Alton Dec 14 1872

Dear Perry

Do you arrive safely at home?

I write principally to inform you that if you have sent out specimens of that Gentian with my name, please retract and correct. I have not done it, waiting for more light — That has come over my dreams today. Knowing that most of our Gentians (even acuta) are identical with arctic species I overhauled the whole again and find that our supposed new plant is

Gentiana tenella Rottb

known from Scandinavia, Siberia, Kotzebue, Siberia and even N.W. America. No author speaks of the protruded base of calyx, except Ledebour in Flor. Rossica who says: calycis laciniis basi saccatis.

I have a lot of Gentians and Lomatogonium from Vasey & Palmer, packed more neo and badly crumbled. The only thing of importance is my Arctic divisions (Fendler on Pin edulis) on P. monophylla!! Isn't that nice! But, but, but, gathered in Mid-

written and not a bit more instructive than my old specimens but a good confirmation of the species. I do nothing in botany — suffer under the Universal Epizoot walk walk — an excellent preparation for Colorado! But it goes hard — Am tired and good for nothing in afternoon.

I forgot to say that Greene sends a specimen of that Gentian from Grayi Cak with my name; so I see you have ~~pouch~~ sent that name abroad. — I have corrected it for Greene — if you have written to others — I pray — correct also and don't let my haste & shame go before people

Yours Truly

G. Engelmann

I suppose you took the thick, terete leaflets of Bouvardia jasminea "Engelmann" for that stout Mexican Arrowwood; Palmer sends 3 broken up specimens of the former. —

Any fruiting Yucca in Darmpt's Garden?

St Louis Feb 7 1873

My dear Fanny

you have reason to complain of me — as you and other correspondents often have — the example of Torrey & Gray — the great Rocky Mountain Botany — is too seductive for a lazy man!

But I can not withstand that last shot — the Agave capsule! unfortunately immature, and most probably the Mexicana Antillana.

That Linum was also sent from four years ago. I make it Berlandieri var pallida (B. is orange yellow) and it certainly comes close to rigidum.

You were right with me of your guesses — it was the epizootic which threw me! And oh, what a falling off from the boasts of a few weeks ago — the great walking

preparations for Colorado ended in an inflammation of the footpower (Gout ?!) which disabled me for 3 weeks. I am now tolerably well restored. — But! This is instructive as suggestive too!

Just got Baker's 13 years figures in Refugium Botanicum of 1872 July. — Quite new but to me shallow and unsatisfactory. Only we must express that more politely.

I have written to Johnson about Y. brevifolia — better you write too. I wish you would connect Atlas & Lay P. contorta & Banks. Locally, to establish the difference in same region! I believe more and more in the difference of P. flexilis & albicaulis. Only the latter in Calif & Oregon.

George after a stormy passage arrived safely in NY, finds Lorry very sick — will be here in 2 weeks.

Palmer says the Cacti are now better cared for.

Feb 7, '73

So you go to Hayden's Park!
Was it you or somebody else who
wrote to me about Hayden good
services to Science, "still he ought
not to consider all he surveys
his own". Pretty good.

I expect some nice things from
you, though "more seed" little bits;
but to say the truth, that country
is botanically well explored. You
may get good seeds e.g. Larisia —
and trace the Conifers.

Hall sent me some of my families
from Texas. Only 2 Pines & under one
number — Mites in flow, Rich was
in fruit! — Nothing new; it was an
unfortunate trip.

This two Mexicae (Oregon & Texas)
fruits have germinated in Berlin.

If you write to 49 Parallel
see that I get good instructions
sp. of Pines — Young cones or female
aments — same to you!

Mr Anderson sends me an Arcuth from Monterey, the old thing, but, o wonder a date to it! So you see instructive instruction sometimes does good!

No, have not heard from Saphan Write again, and I will answer.

Yours truly
G Engelmann

Can't say anything about Rocky Mtns, guess there will be too many civilized Barbarians there — as at Lake George!) for my taste — and their nasty food!

Hall says he can make more in raising taters than in growing plants

St Louis March 15 1873

My dear Parry

And so our old good friend Tony is gone! I learn today from Boston. Your letter reassured me, and still more a note from Miss Maggie written on the 6th that he was up every day an hour or two. It seems that a new attack of bronchitis (or was it failing strength, bronchial paralysis?) took him off a few days afterwards. Gray, of course, went to his funeral which was to take place on the 13th. Did he write to you himself? I have not had a line from him since he was here after his Colorado trip. George did not get to see him.

Yes, George is here now, & works

Please out - Parry. A thin May Oregon, the Bryant & Stratton story, & Friends & protection & old & effective & helpful & wonderful & sympathetic & helpful & wonderful & sympathetic & helpful & wonderful & sympathetic

this day, much the old one, but a man of 25½ and so glad to be back in that loved wicked Austria. He has made serious studies and will make his way. He sends his kindest regards to you and his Darmstadt friends.

Now about Bronchitis! He was here scarcely one week, when I was laid up a second time with crutches and he had to see my patients which both parties seemed to like well enough — so you see I am getting superfluous and can go to Colorado, or to the long journey as well! But as I am not 77, just 12 years younger than Tommy, I will not give up yet; though I never expect to get as old as he! But away with lugubrious boding

Nov 15 '93

Have you got any thing for our Academy Transactions? We have just begun to print; and I am in hot steam about Yucca which must be finished but is unfinished in my mind! How placid

has men like you must feel who have no such responsibility from whom the world does not demand Yucca or American cities either!

Yes, I will help you in "Yucca" (Thought that work will probably be done officially & notes & labor of love)

mity. Why, you will be the greatest man, the most elevated though you may not beat the Schlagintweits. But Bennett at least will have to knock under (as he, poor rascal, seems to do every where now — no, rascal, it's too severe — poor! weak humanity!) Burden said of him that he had made so many more hypso outside

observations than Humboldt — and you will have made so many more than Fremont — so the conclusion is evident — but you are too modest, and I am too modest to keep encroaching on you — I must follow Benton's example, and leave his haven to the citizens to form his own conclusions.

I find a Capt Bendire U.S. Cavalry & half German, half French, 2/3 American (a mathematical puzzle for you!) who comes from Arizona, is very good for any kind of Nat. Sc. work, has collected Birds, eggs, insects (bugs) by the thousand and wants to help unpack in Botany! I said I gave them Gray, Cat'l etc. — hope he will be as good as his word. — Then there comes a Mr Gilbert, geologist who goes there also — and wants to learn what he can do in Botany; look up the papers, I say, get Ar. and correct dates of your coll. but no further now so good bye

Yours ever G. E

Hope not — I have many things to say but was interrupted by a good friend and afterwards I spoke so good bye and apologized for leaving such a long letter

St Louis July 29 1873

My dear Doctor

I had given you up for lost, or at least lost in wonder at the beauties of your new surroundings. But now your letter of the 9th reached me after a long trip a few days ago.

Thanks for the Hornett flower, which always turns up on P. Contorta. I think I must get at it again having finished Y and there being no Z in botany (Zostera is not to my taste)

Finished!! what a presumptuous word — finished? — rather! Only opened up the question the wider. But why talk to you about it — you now can not do anything for yourself but yes,

you might get plenty of seed of Y. angustifolia, if you came across it. My Colorado Correspondent, Green, says, there are no Yucca angustifolia about Pueblo this year.

By the way, he found the purple, pure purple, C. Missouriensis abundant there (Hall had already sent it from Colorado Spr.) and other Cacti.

I have printed the Yucca and send them out — a copy to Farwell also — asking for criticism. That fine Dr Mettenhauer has been very benevolent — the great gun, Gray, has not yet spoken!

Had Meehan, Hoopes and a lot of others here for a few hours going to Texas & Utah; "The power of the Press"

Don't expect you will do a great deal in discovering but you will extend the geographical distribution of species etc.

July 29 '73

Hope your party will make out and reestablish Frémonts Peak — and not let it go to oblivion as most Engelmann seems to have done.

Your route seems to be nearly the same taken by Reynolds & Hayden in 1859. (?) It collected Engelmann & Fendler abundantly and never albicaulis, which Swallow got in Montana.

Hope you get seeds and plants of Lewisia; these will keep alive 6 months or longer.

Well if you can not go to Colorado — I can't either — but every body else goes, & then so that there may not be room enough for me! — Perhaps next year ??

I hope you have written again before you get these

lines. Keep one posted.

Nothing particular here — not even sickly — though we have had a few cases of cholera and some scare.

I have been overhauling California Oaks — but it requires study in the field not in the closet to clear them up; I am with my knowledge of our oaks not astonish — Garryana Douglasii undulata Kelloggii — all white oaks — but may be too dull to find out — or specimens too incomplete

Yours truly

S. Engelmann

These postal cards are great nuisances. People send you a line as long as a telegraph and then think to satisfy us!

St Louis Aug 30 1873

My dear Parry

I wrote you to Camp Brown end of July — which letter you evidently had not rec'd when you sent the Abies from the Yellowstone. This came to day — both packages & letter together. Thanks for the instructive specimens — instructive to me because proving that Dr Parry does not recognize his own bantling, named by him Ab Eng — I really can not see why your plant should be A. alba and not A. Eng? And aside of the cones, she has as much stout leaves in A alba?

I have run over my whole lot of specimens and numerous notes and think I can not be mistaken. I found also how I as long as 10 years ago compared and tried to distinguish the two forms of Menziesii just as I did last year — but, as often repeated, there are forms which approach Menziesii and others which are more like nigra or rather between alba & nigra, what Gray suggested was rubra.

More doubtful than your plant are specimens from the British Boundary

in Allegheny Exp. and sp. from still farther North-Arctic, which last may be vel alba.

I have nothing remarkable to communicate, am at Vitis again where the latest and most astonishing thing is a disposition of Europ. Asiatic & American species by Regel of St Petersburg like unites vulpina (rotundifolia) with cordifolia & riparia and labrusca with aestivalis & both again in Asia & Japan and lets origin originate from culture or hybridization of both these. No sophomore bot. student could have done a more shallow work — it pains me.

Our friend Schott has found in the Bot Garden of Washington a fruiting sp. of Yucca gloriosa, sent me fruit at different stages of maturity and will have a photograph of it. Yes, it is a fleshy pendulous fruit but the seeds are flat, thin and more like those of Y. filamentosa proving my ovules correct. I am anxious to get the mature fruit.

Aug 30 '73

My botanical corresp. has dwindled down — Gray sends every two or three months a postal card — Bolander is mum — Parry away — Lesquereux I fear superannuated — I will have to fall in line and march off — Dear Torrey — Though I would not like as yet! — Arnott's is not yet done and a good many other things not yet — by the way — no Arnott? I think Hayden got A. Ames. on the Yellowstone — do you permit yourself to be beaten by him? —

Shall we see you here on your return?

Yours truly

G Engelmann

3003 Lucas Place St Louis Oct 14 1873

Dear Parry

have been waiting a few days, expecting you here — but you dont come — though Arnott has arrived proving your presence in Colorado. Thanks for the friendly thought.

I wrote you two letters to Camp Brown. Did you get them? — I am anxious to hear from you.

Have you seen Greene? He is doing well — Botany zeal and intelligence —

Nothing new here.

Dr Palmer has been suddenly dismissed by Henry, I understand, on account of very disreputable practices.

Write soon

Yours ever
G. Engelmann

3005 Locust St St Louis Octob 22 1873

My dear Parry —

I hope — more so — he is not in a hurry to answer my lines of Oct 14 which must have crossed his 'n and will work complacently for my answer — and, may be, a good deal longer. I would have done the same thing had you not sent such a compelled Doctor "from Yellow stone Lake" That has as if by magic blown Arnott — Durra and all those bandbellows out of the field, the sweet rapid on swamp born cryptogam, and led me back to old loves and by gone times.

But the secret is, that heretofore I had received from the Rocky Mountains only the same old P. echinospora and here comes introduced by the cunning and gentle hand of Dr C C Parry a stranger from the far west.

04 22 '73

If I mistake not your plant is the same as my D. Bolandri from the Sierra Nevada — not yet published — I want more of it to better examine; Don't keep me waiting for I am just now boiling over and ~~must~~ am afraid if I shall not get it soon, the zeal will die out — but, jesting aside, — let me soon hear of you

Perhaps, you will be interested in the enclosed "instructive" scrap.

No seeds of Greene's asperifolia ??? want it badly — Greene says it did not flower about him. — Did I tell you that he sends from Pueblo pure purple Ox. Mississippiensis? Hall had already found it in Southern Colorado. —

Yours truly

G Engelmann

St Louis Nov 5 1873

My dear Parry

to set you a good example I send you at once the Androstephium. Your specimen I can not find, don't know whether you left one or two; can't tell therefore whether I can find any distinction.

Did you get my Yucca paper? — No seed of Y. angustifolia? — Got my 2 letters in the Mountains?

[redacted] Hope you will get more Asters Yellow stonensis specimens, especially as I find new characters which distinguish it from the Californian — probably a good species for which we will have to give credit to CCP

I hope you will give us plenty of specimens. Why did you not bring the whole box?

I have no faith in Cottonwills

So you won't share your news with post office Clerks? — perhaps they could learn something in that way — "for the diffusion of knowledge among mankind".

Nov 5 '93

Lay aside specimens of your rare or new things for me. Aty. Jonesii among them — I hope it will hold out better than Clematis Scottii.

Barometrum Jonesii is in my hands to compare — in rather dirty condition.

Asphyllum I want to see — have dabbled in these things too — but better not — have more on hand than I can do.

I have not looked at Polygonum for years — can not say; but it is wise to distinguish species by geogr. limits.

Let me hear from you again

Yours ever

G Engelmann

As you seem to like Postal Cards I will stiffen Androstephium with one just received!

The Fouquieria Parryi then grows gregarious and out of water, emerged — in bay, you say — or submerged?

Don't overlook these questions. Date of Collection?

I suppose I have showed you that De Bernotti (he translation is said to have cancer ventriculi), but can not lay my hands on now.

3003 Louisa Str St Louis Dec 7 1873

My dear Parry

Your exhilarating communication of the 1st reached me on the 5th as you demand an answer, even by postal card if in no other way, I must answer — but what? Your Apollyon has failed to touch the point, to fire the Southern heart — the Spartan lies languishing in cumbrous Potsdam to reveal the secrets of its structure. What shall I write? The time will come for both — perhaps to morrow. Poison sale? — But the fact is I have too many things to do — still sometimes I am fired up and can do something extra. Yesterday came a letter from Meehan. They are drawing up a large flora of Colorado — have probably written to you about it, for Hayden's Report; King, it seems robs the sheep from Hayden every eyes — he must publish bigger volumes than heretofore etc etc. They wanted me to do Arcuatt for them which, finished shortly & neatly

I hope you have received all the letters that I have written. Parry, I will there misinterpreting, Sorrell

Dec 7 '73

I have sent on to day — But lately Quercus has got hold of me, and it struck me, that you never have sent oaks from Colorado. nor acorns — Why not? — but I am sure you had the very best reasons. — You recollect that you sent me from Wrightly Palmers Arizona Oaks wrapped up — they had been buried out of sight but the favor guercinus (not teutonicus) as my friend Mellichamp says (he also has, through me, been smitten) has unearthed them — soaked, cooked, pressed, & classed them — all nothing, but Q. Emoryi which Liebman with unseemly haste in looking through Wrightes Coll N Mex in Hb Kew has split in half a dozen species, and which DC in Prodr. ignores. Q. Gambelii was the only other sp. of Palmers

Dr Mellichamp's specimens prove that Q. pumila is an excellent species, and even belongs far away from Cinerea to the annual fruited oaks. He has discovered the long doubted Q. mystifolia and I believe rediscovered Wallers Q. sinuata, which nobody even mentions.

You see the bitter astringent has turned a powerful stimulant to the detriment of Shorter and Asphyllon.

Your posting to St George is tempting indeed — and then for a tramp among the apaches (with or without scalp) and Yucca and Agaves. and Cacti. But —! Pre-haps you could get me as far as Colorado. — —

Guercus is an interloper; my work is Cacti for Flora California. I have purposely taken half a sheet instead of the p. card you ask for — but find it small to small for all I might say! yours ever G E

Dec 18 73

I write only because you in your hyperborean regions (I borrowed that phrase from my S. Carol. friend) like to get occasionally a warm or a kindly word from me

No progress in Insects. The days are so short, and light often so sparing that not much progress in such investigations can be made. Gen Jones has been and redeemed his Bar. — a good instrument — is just married or going to; — gone back to Omaha. Silliman contains a short geological sketch of your trip; and a very flattering notice of me & Yours by Ag.

Well, if I have more to ask or if I must keep you warm I shall write again, especially if you keep me warm!

Yours ever

J Engelmann

Parry

Junip. occidentalis Hook: common on the higher parts of the Columbia, Dougl — Water courses of the Rocky Mountains, Lewis "60–80 feet high, 2–3 feet diam" = "J. excelsa Pursh"
Do you know any thing of this plant?
What we take for J. occid. in Colorado to California is a Shrub — Send me what you have of Juniperus (except Colorado and your San Diego & Arizona things which I have) — I have Torrey's coll. here to worm through; I will have the Berlin Mexican things

Nuttall says J. occid. "it grows with J. flexilis and makes it only 15–20 feet high. Nuttall's is our common western plant, but what is Hooker's?

How far do our oaks of the Mississippi Valley extend west-ward? I ask because it strikes me that there is no biennial found on after leaving our timber lands, till we meet with Q. Wislizeni and Q. Sonomensis on the Pacific slope — the only two biennials of the West.

St Louis Dec 18 73

Dear Parry

Above you find some memoranda and questions, which I lay to your heart. They were written down as they occurred. I am deep in Juniperus you see, and had to lay two of your J. pachyphloea (1852 and 1867) under the knife and glass. I become interested in them and hope to do good service. I suspect pachyphloea to be an old Mexican species — while Torreys J. tetragona must be wrong, it never being tetragonous but bangled. — But enough of this.