

THE CORRESPONDENCE OF WILLIAM G. FARLOW
DURING HIS STUDENT DAYS AT STRASBOURG

HILDA F. HARRIS



Ever Dear Father
 Yours
 Asa Gray
 Thanks for your photo.
 Very nice! I see your mustache
 sets you off!

PLATE I

THE CORRESPONDENCE OF WILLIAM G. FARLOW DURING HIS STUDENT DAYS AT STRASBOURG

HILDA F. HARRIS

In June, 1872, Asa Gray wrote to his friend Alphonse De Candolle in Geneva, "My youthful assistant of the past two years goes in a week or two to Europe, to study in some German university for a year or two; to Strasburg, I think, unless he first should go to Sweden, and there study Algae, with Agardh, if he will receive him. He takes a fancy to lower Cryptogamia. His name is Farlow, an honest, good fellow. He will most likely be in Switzerland in the summer; and I shall give him a letter of introduction to you, whom he will wish to know. But take no trouble on his account, except to introduce him to Dr. Müller, from whom, as a working lichenologist, he could learn much."¹

With this modest introduction, William Gilson Farlow set out to indulge his "fancy for Cryptogamia" in two profitable years of study and travel in the outstanding botanical centers of Europe. Farlow's interest was well placed, and received the whole-hearted approval of Gray, who was quick to recognize the abilities of his young assistant, and was eager to have him return home equipped to introduce the study of the lower plants into the Harvard curriculum. The story of Farlow's study in the laboratory of Anton De Bary is chronicled in an exchange of letters between the two men — long letters from Farlow, rich in newsy narratives of the activities at Strasbourg, and briefer ones from Gray, revealing his deep interest in Farlow's progress and generous with wise advice as to the most profitable plan of study. By direct quotation from these letters² it is possible to create a picture of this interesting period in Farlow's life in which he received the preparation which was to influence so strongly his botanical

¹ Letters of Asa Gray edited by Jane Loring Gray. 2: 625. Houghton Mifflin. Boston. 1893.

² The letters from Gray and De Bary may be found in the Farlow Library; those from Farlow have been generously lent by the Gray Herbarium, and the writer wishes to express her thanks to the Director, Prof. Merritt L. Fernald, for permission to quote from them. The two Christmas letters from Strasbourg have been added recently to the collection at the Farlow Library by Dr. David H. Linder, whom the writer wishes also to thank for suggestions made during the preparation of the manuscript. Dr. Rolf Singer has very kindly contributed the translation of De Bary's letter from the German. In a few of the letters quoted, obvious errors in grammar or spelling have been corrected.

PLATE I. A portrait of W. G. Farlow, sent home during his European trip. Gray acknowledged its receipt in his letter of March 23, 1873, of which the portion is here reproduced in which he characteristically remarked, "Thanks for your photo. Very nice! How your moustache sets you off!"

work in this country, and during which time he acquired the nucleus of his now famous herbarium and library.

Farlow's first months in Europe were spent in traveling, but even then he was anticipating the prospect of his winter's work, for he wrote on August 12:

Everyone speaks in glowing terms of De Bary and I hope to be suited with Strasburg. Hofmeister has gone to Tübingen and it will not be far to go to see him if it seems best . . . I am anxious to get to studying. I enjoy roaming about very well but I like better to be settled.

It was not until October 6 that he wrote that he was in Strasbourg at last, and had met De Bary. "His appearance is not striking. He is small and homely and looks too young to have written as much as he has."

If this initial meeting with De Bary failed to come up to his expectations, Farlow's impressions of Strasbourg were even more disappointing. Strasbourg had surrendered to the Germans in 1870 during the Franco-German war, and Farlow arrived there two years later to find the city still filled with soldiers, the university enrollment shrunk to a mere 250 students, and the German language, which he had hoped to master thoroughly during the course of his studies, spoken poorly and with an "Alsatian twang." Farlow took an immediate and permanent dislike to the city itself. In his letter of October 6 he complained:

I do not, now, think I shall be able to endure Strasburg longer than one term. It is one of the most disagreeable places I have ever been in. The weather has been horrible. I have been here, in all, ten days and not a single one at all pleasant and the weather cold and raw. I cannot keep warm. As for society, there is absolutely none. The university instead of having 1500 students has only 250 and no English or Americans . . . Prof. De Bary thinks Strasburg will be a very good place to learn German but I do not agree with him. The people don't speak German and there is no society here except military men with whom I am not likely to become acquainted. I am almost sorry that I didn't go to some northern city and study the language and let botany alone for some months.

As time passed, only a growing realization of the excellence of De Bary's instruction forced him to admit reluctantly to himself that he could not hope to receive such training in any other place. As he said later (April 23, 1873) after a visit to Heidelberg:

[It] is certainly one of the loveliest places I ever saw and is particularly beautiful in spring when all the trees are in flower. I was glad to come here because I wanted to find out, for myself, whether it is really a good place to study or not . . . Accordingly *Veni, Vidi, but not Vici*. I find that H. is not to be compared with Strasburg for botany and I leave tomorrow for the latter city to stay during May and June with De Bary.

Farlow has described conditions as he found them at the University of Strasbourg in a short paper which he wrote in October, 1873, intending it

for publication in the series of articles which appeared in the *American Naturalist*. In it he said:

The University of Strassburg which has, for two years, been under the control of the Germans, stands, as far as botany is concerned, in the first rank. It is rather the fashion to say that the University has been created by the Germans. This, however, is not true, unless we adopt the view that nothing can be a University which is not conducted on the same plan as those of Germany. Before the Franco-German war, the name of Academy was given to what is now the University, although the number of students was then much larger than at present. Strassburg has for a long time been the residence of distinguished scientific men. Of the botanists of the old régime, Schimper and Buchinger still remain. Millardet, the most promising of the younger men, is now in Nancy. Prof. Schimper, perhaps the most distinguished member of the scientific faculty, still gives lectures on fossil botany and has a very large and rich collection of fossil plants.

The active botanical work is performed by Prof. De Bary and Ass. Prof. Solms von Laubach with Dr. Fritz Sc[h]mitz as assistant in the laboratory. The number of students attending botanical lectures, if we except the course on Medical plants, which must properly be included in the medical department, has never been greater than fifteen and quite frequently not more than five. The attendance has sometimes been as low as two. I give these numbers simply to show how different are the conditions from those of our own universities. An American professor would hardly think it worth his while to deliver a lecture to five students. The different proportion of instructors and students affords the clue as to how the Germans are able to do so much high scientific work. The professors have very little else to do. It is for this object that they are appointed professors while in America the professors are only able to do any purely scientific work in intervals between long courses of elementary instruction which is done in Germany in the gymnasium.

Farlow began his own studies at the laboratory in October, 1872, and he described his work in two letters to Gray.

Strasburg, Oct. 6.

Dear Sir;

. . . I have now been in Strasburg five days in my rooms, up four flights, in the Hotel Allemannia. Every day I go to the laboratory where there are three other students besides myself: a young man, quite young [Rostafinski] who is a genius. He draws and paints very well, and is now at work on a book on the Myxomycetes; another, a native of Strasburg [Gilkinet] who is skilful with his fingers and a third, somewhat older [Suppanetz] from Gratz who is doing something or other with *Pediastrum* and some of the Desmids. The first two students have been with De Bary three years.

Prof. De Bary is a very good teacher. He is very thorough. He put me, at first, on to *Chara* and makes me draw everything with a camera. I find it rather slow work, and am afraid I shall have to stay two or three years with him to learn much, which is longer than I think I shall be able to. Here every one thinks that a knowledge of the larger fungi or algae is contemptible. That the only thing worth living for is to study the development of some of the lower forms. A sys-

tematic botanist of Fungi or algae is regarded as a shallow person, of course, without any ability . . . You will be surprised to hear that I have come to the conclusion that England is, on the whole, the best place to study as they have not such a mortal dread of anything systematic. I should like your advice about what I should study.

W. G. Farlow. Hotel Allemannia.

Strasburg, Nov. 1st. 1872.

Dear Sir;

. . . I have now been a month in the laboratory but the lectures did not begin till this week. The lectures I have decided to attend are, De Bary's on Vegetable Anatomy and on the Lower Forms of Life, Graf Solms on Cryptogamia, and Schimper on fossil botany. Each lecturer lectures three times a week. Graf Solms has the uncomfortable hour of 6 to 7 in the evening. None of the lectures begin till a quarter past the hour. When it is light and I am not at lecture, I work in the laboratory, with the three students that I mentioned in my last letter. At first, I had the development of Chara and, then, started on vegetable anatomy, first, with the sieve cells, which are interesting, and, now, I am studying the milk ducts in Euphorbia, a tedious but not uninteresting work. There is a new monograph on the latter subject by David, a pupil of Cohn. The probability is that I shall devote six months to anatomy and then take the Myxomycetes. At first, Prof. De Bary gave me as much attention as I could desire, but, lately, he has been entirely occupied by his duties as Rector in matriculating the students. He told Rostafinsky that he should soon be able to devote considerable time to me, which will please me very well, as I don't like his assistant Dr. Schmitz very well.

De Bary is an excellent instructor and a very pleasant man. The students all like him. His German is a little peculiar and it is hard to understand him but he speaks very good English. He has not much mechanical or artistic skill but he is business like and doesn't poke like most of the others. As a lecturer he is poor. He doesn't speak distinctly, doesn't draw well, and is not at all interesting. Here, there is nothing to learn in the way of addressing an audience. The Professors have a very careless way. De Bary's audience consists of five persons. Graf Solms, as he is called, doesn't speak English at all. I understand his lectures very well and they are interesting. He seems to be a very industrious man and very well trained in microscopic anatomy and the general structure of the lower orders. I should hardly think that he knew as much about flowering plants as was necessary for such a position as he has. He also lectures on Pharmakognosie but I don't attend. His delivery is somewhat better than De Bary's but still he is not a model. He has an audience of six . . .

On Wednesday I was matriculated. The imposing ceremony consisted in listening to a short poorly delivered address from Prof. De Bary, who is rector, then shaking hands with him, and receiving a ticket of admission. There are, now, about three hundred students in the University. I have to pay for lectures and laboratory 120 fr., not including Prof. Schimper's lectures which have not yet begun, and for which I have not paid. Schimper is, it appears, a fine zoölogist and geologist as well as botanist. He is attached to the zoölogical department . . .

Yours, in haste,

W. G. Farlow

Farlow had not been long at Strasbourg when the opportunity arose for him to acquire, for his personal herbarium, his first famous collection of fungi. Before he left America he had discussed with Gray the possibilities of buying the Curtis Herbarium, and in October he received the following note from Gray.

Cambridge Oct. 16, 1872

My Dear Farlow

We have much enjoyed your letters — the last from Berlin, & including several of the Linné photographs. They are *most delightful*, and I beg you will keep up the habit of so writing to me. When I can I will write to you in return . . .

When you left you were a good deal disposed to acquire the late Mr. Curtis's coll. of *Fungi*. Mrs. C. is now ready to divide the *Fungi* from the rest and to take \$1000. I have to-day seen Mr. Sprague of Boston who advised my securing them, and offered — long ago — to pay \$500 towards it. He tells me that he is now in different circumstances from what he was, and wishes to forego the purchase — don't think he can afford to pay \$500 at all. And putting in the *steam-warming* here has used up the means of the Herbarium for last year & much of this year.

So, if you are still very fungously inclined, and want to be *set up* in this department, I am out of the way, and you can buy the collection if you will. What say you? If you decline, I shall offer it to the British Museum.

Ever, dear Farlow,

Yours sincerely,

Asa Gray

Farlow replied promptly (November 1):

As to the *Fungi*, I have concluded to take them. The price seems to me to be a fair one and, although I know nothing about fungi now, I hope to some time hereafter. The collection is unique and certainly should not leave America. I think it will be worth a thousand dollars to me as a recommendation in securing a position when I return. It is something to possess the finest collection of fungi in America and I hope, before long, to have a good collection of algae, certainly the best in America . . .

I will write, at once, to my father about paying you for the *Fungi* and will ask my brother to call and see you about the payment. What shall be done with the collection? Had I better have it sent to my father's house? How can it be forwarded to Boston? I will ask my brother to settle these questions with you.

Cambridge Nov. 25, 1872

My Dear Dr. Farlow,

I received your letter — saw your Father, same morning — wrote to Mrs. Curtis — and now have this reply: —

Will attend to all . . .

Ever yours,

A. Gray

Gray enclosed in this note the letter from Mrs. Curtis.

Wilmington. Nov. 22nd. /72

Dear Doctor Gray,

I have this morning received your last letter, forwarded to me from Hillsborough, and hasten to reply, lest you should imagine me doubly neglectful. The former one, advising us to pack and forward to you, the books relating to Botanical science, left by my dear Husband, was received a few days before I left for a visit to my friends in this place, and it was scarcely possible to write just then.

I shall return home in two or three weeks, and will try to pack the Fungi, as you wish, although it is a subject for regret to all of us, that the Collection must be separated. When we have all arranged to send off, I will communicate with you again, and let you know in what manner to make the payment.

With the greatest respect and regard, I am, dear Sir, Yours,

M. De R. Curtis.

Farlow acknowledged Gray's kindness in offering to look after the collection, and in the same letter expressed his rather dubious opinion of De Bary's way of running the laboratory.

Strasburg, Dec. 19th.

Dear Sir;

I received your letter with the accompanying one from Mrs. Curtis a few days ago and am glad that you have consented to see whether the collection is in proper order although, I am afraid, that it may take more time than you ought to give. The collection of M. De Brebisson is for sale in fragments and I have ordered Cape and S. American algae to the extent of a few dollars. His collection of diatoms is very good and is supposed to be worth 2000 Thalers. A Dutchman I believe is going to buy it.

. . . As a whole, the laboratory looks about as much like a chemical laboratory as a botanical, since there are any quantity of bottles of reagents, test-tubes, evaporating dishes and a great hood. There is an immense amount of strong 40 p.c. alcohol used as everything, even algae, are put into it at once and we have each a small wash bottle full to moisten our sections every few minutes.

In some things they are deficient since there is only one drawing prism and one Redresseur and, what is abominable, not a single dissecting microscope.

On Monday next, begins a recess of a fortnight and I am going to Frankfort for a few days to rest, and, then, shall come back to study. I have now been here three months and can form an opinion of the merits of Strasburg. As far as the town itself and social advantages are concerned, it is detestably bad. It is a very bad place to learn any language and there is no redeeming feature about it. As far as the botany goes, sometimes I am satisfied and sometimes not. From what I learn from the other students, what I regard as deficiencies in the instruction are common to all Germany and not peculiar to this place. Everything is slow to me, but, then, I am in Germany. There is no *plan* of instruction whatever. That is, I must know what I want to study and ask for the material myself and go to Prof. De Bary as I would to a dictionary, for information. I have learnt, as have all the others, not to ask Dr. Sc[h]mitz questions, as the answer is more perplexing than previous ignorance and, when he comes round to ask what I am about, I tell him I have material enough to last for some time. I never let him

know that I want something more for, in that case, he picks up the first thing that comes handy whether it has any reference to my previous studies or not.

About eleven, Prof. De Bary comes into the laboratory for a little while and, generally, again late in the afternoon. He knows a great deal and is very pleasant but is very often interested in abstract propositions which no one but a German cares anything about. A fortnight ago Dr. Schmitz gave me a *Lycopodium Selago* to study and, after making sections and preparations of one kind and another, I thought I knew it pretty well when De Bary asked whether the capsule arose from the stem or the leaf. After two or three days' work I managed to get sections which satisfied him and, of course, myself that it arose from the leaf. Then came the question how it arose which he didn't know or, as far as I can find out, anyone else. After much more labor, I discovered that the epidermal cells begin to divide parallel to the surface and it grew out in that way. Then came the, to me, transcendental question what might the subepidermal cells do, and, for a week, I made section after section of the Vegetationspunkt with no result whatever till I used up a great bottle of material which put a stop, fortunately, to further investigation. I ventured to suggest to my neighbors that I thought, as I wasn't to stay in Europe forever, that my time might be better employed than searching for a needle in a haystack which I could do as well at home. My Alsatian friend, from whom I learn more than anyone else, said Oh! in a few months you will be able to write a monograph on the subject. That remark was a clue to the whole thing; they study for the sake of writing monographs, just what I don't wish to do here. I can do that when I get back . . .

Remember me to Mrs. Gray, and all the gentlemen in the herbarium.

Yours, respectfully,

W. G. Farlow

Farlow was always on the lookout for books as well as specimens which would provide him with a good working collection when he returned to America. He browsed through every available bookshop and catalog, and gradually accumulated for himself and for Gray an enviable collection of the best botanical books in Germany. By the summer of 1873 he wrote that he had a trunkful of books which he would like to send home, and the following summer he observed with some pride that as an added qualification for a position he had "the Curtis Fungi and the finest collection of algae and algological books in America and a good collection of modern works on fungi." Many of his letters to Gray contained reference to books which he had seen on the market, as well as observations on the usefulness of some of the newer works.

[December 19, 1872] Books are uncommonly dear, it seems to me, and we get German books in America very nearly as cheap as here. Among books which may interest you, are Thomé's of the Real Schule, Cologne, *Lehrbuch der Botanik*. He has also written a *Zoölogy* and both books are the standards in German schools. In the Botany, the plates are very good and he goes into the anatomy and Cryptogamia much farther than in our own text books, and, I think, too far for common school scholars. But that is a German failing. The third edition of Sachs *Lehrbuch* has just appeared. The principal change is in the article on Aleuron. The *Lehrbuch* in Germany is a sort of botanical Bible and there is no use in telling a German that there is a great deal in it that is stupid

and had better have been omitted particularly as it is borrowed from Hofmeister. A book which I am going to buy sometime and which would be a great help in your lectures on Economical Botany is Berg & Schmidt's *Officinelle Pflanzen*, in four moderate sized volumes with very good colored plates. It costs, I believe, 26 Thalers, a pretty high price.

[January 4, 1873] A book which I shall buy for myself and which, certainly, ought to be in the Cambridge library is Tulasne's *Carpologia Selecta Fungorum*, of which, if I remember rightly, you have only the volume on the Tuberacei. It is expensive, coming to, at least, fifty dollars, perhaps more. Another work, which I, possibly, mentioned in my last letter, is Schimper's *Paleontology* in three volumes, in French and horribly expensive considering. It is 30 fr. a volume, I was told. Strasburger's *Coniferae & Gnetaceae* is regarded as a good morphological work, that is, a book which nobody ever finds time to read.

The algae of De Brebisson which I ordered were previously engaged. I think, before I come home, I shall get Fuckel's *Fungi Rhenani* and Rabenhorst's *Fungi Exsiccati* unless they are already in Curtis's collection. Have you Rabenhorst's *Characeae*? I have been advised to get them. Dr. Schmitz has sent you his article from the *Flora* and I asked him also to send Mr. Wright a copy.

I spent Christmas week in Frankfurt stopping at the Hotel du Nord but spending most of my time at the Consul's Mr. Webster, father of the only real American in Strasburg besides myself. I went into the store of Joseph Baer and spent some hours looking over his books. He has a Jacquin's *Flora Schönbrunnensis*, in good condition for 68 thalers, a Hooker & Greville which Prof. Eaton may like. I bought Martius's *Plant. Crypt. Brasil* for \$18, Mohl *Vermischte Schriften* for \$1, Boerhaave's *Historia Plantarum Lugduni-Batav. 1731*, Dillenius *Cat. Plant. Circa Gissam 1719*, for 50 cents, the two last simply as curiosities. I found a *Vegetable Materia Medica* of the United States by Barton, Vol. 1 for \$1.50 and bought it. I don't know whether a second volume was ever published. Michaux's *Flora Am. Bor. 1803*, 2 vols for \$3.00. There was a Barton's *Flora* of the United States 1st vol. complete, and second not bound and not certainly complete for about \$10. I couldn't find out how many plates ought to be in the second volume. If I had been sure that it was complete, I should have bought it for you as I heard you say you wanted it. In Mrs. Curtis' letter she mentions sending her husband's cryptogamic books to you. Have you bought them for the library or is there something which I ought to purchase?

If I felt sure of getting a permanent position at Cambridge, I should limit my purchases of books to those which, as far as I know, are not in the library at Cambridge. But, as it is, in consequence of losses by the fire, I suppose the college will not feel like increasing the number of its instructors for some time to come, so I must buy books which will be necessary if I go to a place where the library is not as well stocked as at Cambridge. The same feeling interests me in collecting. I don't want to preserve the phaen[er]ogams which I may collect but the knowledge that I have a collection of flowering plants will help me in getting a position in some other place than Cambridge. The fungi and algae, of course, I save and perhaps I shall the mosses . . .

[March 6, 1873] Last week I saw a catalogue of Moser in Tübingen with some excellent things remarkably cheap. I wrote at once but found the best things gone to my regret. I bought several pamphlets, on algae principally, and an Endlicher. I saw a copy of Sprengel's *Das Entdeckte Geheimniss*, which I know you wanted, but it had been sold unfortunately. I agree with you that single odd

volumes are a delusion and a snare. About De Bary's work every day something of his which I have never seen before turns up. As I expect to be here next term I shall secure more of his pamphlets for myself and next week I shall buy some of those for sale. Perhaps, when the photographs arrive will be a good time to suggest that he should send you a complete set of his works. Brefeld's *Penicillium* has just arrived in manuscript with ten plates said to be very interesting. Strasburger's *Azolla* is like all his works but I don't believe you will want it. Rüssow, a Russian, has written a book in German on the structure of higher cryptogams which I may possibly buy but I don't think you will want. Have you Schwendener's *Flechten-Thallus*?

[May 12, 1873] I have just ordered and secured! Sprengel's *Entdeckte Geheimniss* which I know you wanted. At last, I have got hold of a Postels & Ruprecht for 32 thalers in Berlin.

[June 30, 1873] A copy of Corda's *Icones Fungorum* is for sale and De Bary has told me that it is an indispensable work and advised me to buy it although the price is 130 Thl.

[November 15, 1873] Ruprecht's Tange, I bought before I left Cambridge. Eaton wants to use my big Postels & Ruprecht until my return and I shall write to my father to mail it to him. I have lately bought a few books and shall order more. I expect soon a Tulasne for 60 Thl. Two indispensable and unfortunately unprocurable books are Corda's *Icones Fungorum* and Sowerby's *British Fungi*. A Corda was sold last year for 130 Thl. Is there a Corda in America? Sowerby is in the *Bost. Nat. Hist.* I now have a good many pamphlets which have cost a heap of money. However, most of them are very useful and not to be found in America. Is the set of Pringsheim's *Jahrbücher* in Cambridge complete? I shall try to get De Bary to let me have his duplicate set, not quite complete, of Fuckel's *Fungi*.

[June 13, 1874. London] De Bary has bought Duby collection. I have bought Sowerby's *Fungi* and a Harvey for my own use. I can't make up my mind to give \$200 for Kützing's *Tabulae Phycologicae*. I feel more like giving \$80 for a Bulliard which is very useful for fungi and not often to be had.

After Farlow found himself more or less oriented to the German way of research, he began to shape up more definitely his own plan of study. His language difficulties, coupled with his intense dislike for Strasbourg, brought up the question of whether to stay on with De Bary, or to move to some more congenial city. Some of his problems were settled when, early in January, he received a number of suggestions from Gray who, kept at home by an attack of influenza, found himself with plenty of time for planning.

Cambridge Jany. 10, 1873

My dear Farlow,

Yesterday came another of your welcome letters — to solace me in *illness*: for I suffer with a dreadful influenza — & Goodale is away, at Baltimore.

While lying sleepless I have thought over your studies &c —

We are going to have the Cryptogamic Flora of U. S. done up, *pari passu* with the Phanerog. Sullivant is *engaged* to do the *Mosses*, in a volume — to which I hope to have Austin do the *Hepaticae*.

I want you to come home prepared to do —

1. The Algae — one vol.
2. The Fungi —
3. — since they are only *Algae & Fungi!* either dwelling together — or the lamb inside of the lion — you will probably have to do the Lichenes! Unless we can get them out of Tuckerman, in an intelligible form — which is doubtful. He is somewhere among your friends the *Germans*.

I should think you are doing pretty well — learning what you ought to know — getting the ways of working. But tell De Bary that if you stay there another *semester*, you must be put at work on & be taught *Fungi*. Of course, only low Fungi could be noticed there — or could be worthy of notice by your philosophers, such as the mould upon a Strassburg cheese or a bad-smelling sausage: *Wurst* — I think they call them, which is descriptive when spelled with an *O*.

If De Bary can't see that you are taught this special lore, why, I would migrate in due time . . .

I doubt if Hofmeister has ever been much of a teacher. Yet I always thought much of his work. I suppose your best chance would be with Nägeli. If they find *him* intelligible, there need be no despair anywhere.

Tubingen should be a cheap place to live, and a complete University town. Hegelmaier who worked up Lemna & other low Pha[e]nogams is a *Botanist*, and I should think you might learn much of him, as to ways of research.

Suppose you look in at Tubingen & see a little for yourself.

Munich is cold enough in winter, but an attractive town. *Nägeli* conducts a well-ordered botanical laboratory. Radelkoffer, his aid is a jolly good-natured man, who knows plants & flowers somewhat, as well as vegetable anatomy. So, I should be content with Munich for one trial.

But I have a capital idea for you when your summer vacation comes — Dr. J. Müller, Candolle's curator, at Geneva, is one of the best *practical* workers at *Lichens* &c. — the very man to initiate you into *Lichen genera* & Lichen work. When summer or spring arrives go up there, and arrange with him to take you in hand, & have with him, & De Candolle, & Boissier your respect raised for *Botany*. In 3 weeks of work with Müller you would learn *Lichens*, and Geneva is the place of departure & return for the Swiss excursions you will enjoy . . .

They are going over the collection of Fungi, Mrs. Curtis & son, — and in reply to a letter, I insisted that they were to see that all was thoroughly poisoned or repoisoned!

Get as many of the Lehrbuch's as you think worth while . . .

Oh — as to *Cohn* at *Breslau*. I think you might do well with him, for a while, as you say. And then, if Goeppert is not too old you might really learn somewhat of *fossil-plants* — which you never would from Schimper's lectures.

But I have another good idea. Get *Schimper* in a series of private lessons, as the days get longer, to put you up to *Musci*.

He is an old & famous hand at that, — and you might learn all his *wrinkles* in a fortnight.

Mrs. Gray is as much broken down as I am — & suffers with, what Dr. Wyman assures us is *Pelliosis rheumatica!* — I, with *influenza diabolica!*

Always Dear Farlow,

Yours truly

Asa Gray

Farlow replied on January 27.

. . . I am very sorry to hear that you and Mrs. Gray are sick. I had hoped that, with the better heating of the herbarium, you wouldn't be liable to attacks of bronchitis as before. However, I suppose, you are glad that Mrs. Gray is sick, since misery always likes company.

I was glad to get your advice about my studies. In a week or two I shall have finished my anatomy and shall then go on to Pilze. So far, my regular study has been anatomy but I have made occasional excursions into other branches. I learn a great deal, also, from the studies of the other students who always show to me what they have interesting. Stahl is at work making a lichen out of a fungus and an algae. I have now saved about 70 microscopic preparations which will be of very great service to me as I know exactly what points each specimen illustrates. We are taught to make very thin sections, no matter how small or ragged they look. I think I could stay with De Bary another term to study Fungi and Conjugatae and lower algae. Strasburg itself, however, is utterly unendurable and I find it fearfully hard to learn the language here. I had some thoughts of going to Bonn to spend the summer semester and study botany only forenoons and the language afternoons and evenings. I must learn the language at once. If I was in a private family and could give my whole time to German, I could get it. As it is, my best energy is spent entirely on botany. Your letter however, changes my plans. I must decline going to Tubingen or any other small town in South Germany until I have learnt the language better. I hope to study in Munich next winter. Your statement of what I am to learn hardly comes within the bounds of your usual modesty. I think I could stand the algae and, in course of time, the fungi, but, when you come to add the lichens, I begin to despair. I should like, as you propose, to study in Geneva and should like a letter of introduction to Mueller if you feel inclined to give me one.

As the term neared its end Farlow was able to estimate the value of the courses he had studied, and he seemed suddenly to find a surprisingly large number of reasons for enjoying his work at Strasbourg. On March 6 he wrote:

. . . For myself, the most interesting thing at present is that the semester will end next week and we have a recess of about six weeks, till May 1st, when according to all appearances I shall return to Strasburg for the months of May and June . . .

I like De Bary better and better the more I know about him and the students in the laboratory are pleasanter than I can again expect to meet in any one laboratory. Rostafinsky leaves and goes to Munich where I shall meet him again. Suppane[t]z also leaves to secure an appointment in Gratz. Döbrach goes to Bonn, but he was by far the least interesting of all. Gilkinet and Stahl remain but go with me to Munich next winter. Besides the botanists, I have only one acquaintance in Strasburg of any account, that is Webster, the American law student.

As to my studies (in botany not German) I suppose I am as near satisfied, as I, who am a first class grumbler, can expect. I have been over anatomy practically and by lectures very much more thoroughly than ever before and there is but one point which I have omitted which can be better studied in summer, the development of the embryo. I have about a hundred preparations and some



ANTON DE BARY



ERNST STAHL



ALFRED GILKINET



JOSEF ROSTAFINSKI

drawings which will be of use to me and what is most important have learnt the German way of work and managing a laboratory which is radically different from ours. Lately I have been at work on the Pilze and their development in which branch De Bary has more practical knowledge than anybody else in the world. He is very pleasant and takes an interest in his students and gives them a reasonable amount of time and attention. I have studied the potato disease, *Mucor* and the allied forms, *Piptecephalis* and *Chaetocladium*, *Ascobolus* and *Eurotium* as types of *Sphaeriaceae* and *Dictyostelium mucoroides*. The last was particularly interesting from sowing the spores till the ripe sporangia were produced on the object glass. De Bary spent an hour showing me the original preparations of Brefeld's *Mucor* and Hallier's cholera Pilze, the latter very shabby, dirty and composed principally of striped muscular tissue. Incidentally I have examined other fungi, *Uredineen* &c. My neighbors in the laboratory are very obliging and help me in any way they can.

Next term, De Bary has two courses, a course on general anatomy which I shall not regularly hear as it is too simple, elementary, and once a week on the important medical plants. Graf Solms has two courses on Systematic Botany which I shall attend, if they are good, and on Phaenogamic Parasites. With regard to Schimper I don't think I care to study the mosses with him; he is learned but now old and a little tedious. I could learn nothing from him in a short time. I may instead study lichens with Graf Solms one or two afternoons in the week as a relief to the Pilze study. With De Bary I shall study only fungi and their development and leave the algae for Munich or, if I am so lucky, Thuret . . .

I have taken tea twice at De Bary's and a few Sundays ago all the botanists were invited by Gilkinet, the Belgian to dine. De Bary was there and we sat down to the table at one and rose at half past nine, a fearful feed. At the beginning each guest was provided with two enormous bottles of wine, and, when these were disposed of, more was brought on . . . Next week, I believe, Rostafinsky is to give a dinner.

Farlow derived a great deal of pleasure and no little amusement from his contact with De Bary's assistant, Graf Solms von Laubach. He described him as "a strange man, good hearted and well meaning but very awkward and, as a Graf, filled with strangely absurd stories about America." The Graf, however, was not the only one to have extraordinary ideas of America, because Farlow remarked in one letter "I am not unfrequently asked whether our lectures are in English or German by intelligent people. I have, also, been asked if it wasn't very pleasant collecting near Boston because the Gulf of Mexico must be a very good place for sea-weeds." At another time he told of meeting Müller's young son, who had recently been reading Cooper, and was "delighted to see some one who could tell him all about the Indians of Boston." Unfortunately Farlow did not elaborate upon the Graf's conception of this country, but he has described how he enlivened the work at Strasbourg. In a letter to Mrs. Gray (October 27, 1873) Farlow told of a collecting trip to which Graf Solms contributed most of the entertainment.

PLATE II. Contemporaneous portraits of Anton De Bary and three of the laboratory students with whom Farlow associated at Strasbourg.

Day before yesterday we all went on an excursion to the other side of the Rhine to a village called Kork. First, of course, we had to have some dinner and Graf Solms, who is one of the most awkward and amusing men I ever saw, began by upsetting his soup all over his clothes which was followed by a volley of Donnerwetters and wailings over grease spots which never can be taken out, requiring all the skill of De Bary to quiet him. The rest of us were so convulsed with laughter that we couldn't say or do anything. We all ran for the train and had to pay a fine of 50 ct. for coming so late. Kork is a flat plain interspersed with mud puddles and ditches and here the Kork youth with woollen night caps watch large herds of swine and geese. We proceeded slowly through this charming region the only question as to how wet we should get. At length we came to a very dirty pool full of different species of *Elatine* and Graf Solms began digging in the mud and screaming every time he fished up an *Elatine* to the great delight of all the swineherds and De Bary who called the plant *Elatine speculosa* in consequence. Another pool was full of *Marsilea* and the botanists all lay down flat in the muddy grass and began digging up the mud with their fingers and my umbrella, Graf Solms screaming at intervals and jabbering mixed French and German. When we were all dirty enough to go home, he discovered that he had not worn his excursion shoes which distressed him exceedingly. His troubles were drowned in a glass of beer at the depot.

As to his lectures, Farlow said (February 4, 1873):

Graf Solms I don't like particularly well on the Cryptogamia. He is now on the algae, of which he has made a perfect botch. There is no classification of the algae to be allowed because the 'Entwickelungs-geschichte' isn't well enough known; therefore, by German logic, Graf Solms is not to have any system in his lectures, in which negative point of view his lectures are a perfect success. Today a specimen of *Gracilaria* was passed round to illustrate *Gigartina compressa* and *Wormskioldia* was described as *Delesseria*. *Porphyra* was also in *Florideae*. The mixture was so bad that I don't wonder that the students here, not one of whom has ever seen the sea, think that the algae are in a wretched state.

Later he wrote (March 6, 1873):

Lately he [Graf Solms] has been lecturing on the Pilze and as his lecture room is next to De Bary's private laboratory he was afraid De Bary might hear his mistakes so that he has lectured in a whisper for some days to our great amusement. His greatest fault is that he has no system about his lectures but perhaps that is because he is an aus[er]ordentlich[er] professor.

There was some thought at this time of calling a European botanist to Harvard on Gray's retirement, and this possibility made Farlow wonder about his own prospects after his return to America. Fearing that Harvard might not have a place for him, he asked Gray about the opportunities in California, saying that while he preferred to be in Cambridge, he was not "of the number who believe that all colleges but Harvard are barbarous." Gray, in his letter of February 23, 1873, hastened to reassure him. He wrote:

Take your time — prepare *thoroughly*. Meanwhile, if you get in a hurry — and if, as is likely any other place turns up — and places are sure to turn up — I will see to your interests all round.

Do not be at all uneasy. By the time you are ready there will be some good place for you. Anyway as soon as you come back there will, at the least, be an assistant-professorship here for you, I cannot doubt.

But your winning card, as it is what is *most wanted* in U. S. is Cryptogamy — especially low Cryptogamy. *Fungi* will be the most telling card. There you will have an exhaustless and a *popular* field — in which, well prepared — you can make a mark here.

Algae — are well, but marine soon exhausted . . .

Then *Lichens*. Tuckerman is hors de combat, I fear. You must really go into them! And, indeed, when Sullivant goes off the stage — which *must be* before very long — there is no fit moss-man.

Whether you should stay at Strasburg longer I am not competent to advise. I should say stay if Strassburgh were a pleasanter residence. You are just now entering upon the field in which De Barry can teach you much, & I hope would do so. But you must take the universities in their turn.

Perhaps in some you will find good *lecturing* — which is also to be studied. Perhaps you must go to France for that. The French '*expose*' best.

. . . We were *so* amused with your account of Solms' lecture on Algae. If you stay at Strassburg, you had best be a *Privat-docent* in *Algae*. It would tell!

Farlow replied gratefully on March 24:

Dear Sir;

Yours of Feb. 24 was received a few days ago and I was even more glad than usual to hear from you. Of course, there are times when I feel anxious to know what I am to do when I get back and that anxiety does not help my studying for the present moment, but, as long as I feel that there is some one who has an eye to my interests, I do not feel so much inclined to hurry up my studies here. I cannot express my obligations for the expressions of interest in me contained in your last letter.

There are evidently two ways of studying the botany. The first, to catch the plan of work in different places and then myself to transfer that plan to America. With such an object I feel as though I had already had enough of Strasburg. I know De Bary's method of investigation and could apply it at home — if I had time. A term with Nägeli and a short time with Hofmeister and two or three months in France would teach me the methods of study adopted by European botanists and in a year and a half I might come home, not so very badly prepared, at least, to tell what other people are doing.

The second plan involves in addition a continuous work under the different professors and requires, I am afraid, double the time required by the first mentioned course. In pursuance of this plan, the most thorough and the one I should rather adopt, if I could spare time, I ought to stay longer in Strasburg. Accordingly, when I left Str. a week ago I told De Bary that I should probably return for the months of May and June. I left my preparations and microscopic affairs there. Next winter as I have said, I expect to go to Munich . . .

If you were amused at the account of Solms lectures on the algae you would also have been amused at those on the lower fungi. He told us that we must regard the Myxomycetes as animals for he didn't have time to lecture on them. If he had had two more lectures he should have made them out to be plants. He tumbles over his chair puts his fingers in his mouth and goes through contortions that would make a cat laugh. He is goodnatured however. Just before

I left Strasburg I invited all the botanists, eight in number, to dinner. De Bary was at one end of the table and I at the other and Graf Solms in the middle where he kept up his old habit of swigging down red wine. Suppane[t]z the Austrian was more blooming than ever and went into rhapsodies over some figs on the table, Süd-europäische früchte, Liebe[r] Gott, classische, colossale, ganz eminente. He flourished his knife in a way to make me fear for my life. The supper lasted, for Strasburg, a short time, that is from half-past eight till a little before twelve. The greater part of the company then retired to the Deutscher Kaiser to finish up with a few glasses (10 or 12) of beer. The laboratory broke up last week. Suppane[t]z is ordered by the Austrian government to Prague instead of Gratz where he will probably get a place; Rostafinsky went home, Dölbrach to Bonn and I cleared for Frankfurt. At Carlsruhe I ran into Graf Solms who was characteristically trying to back round a corner. He spent the time till we reached Heidelberg in repeating to me how 'komisch' it was that we had met . . .

You are getting so modest in your demands that in your next I expect to hear that I must study the ferns, as, in course of time, Eaton will depart this life, and possibly the flowering plants also. The lichens I should like to study and in Geneva where I understand one can learn French better than in Paris. However, I must first learn German, and it will be provoking to find that just as I am getting so as to be comfortably up in the language I must go home.

Rostafinski's plans of studying algae with Thuret raised the hopes of Farlow that he might be as fortunate, for, as he said "There is no one in Europe I should so much like to study with as Thuret." On receiving the letters of introduction which Gray wrote to Thuret and Müller, Farlow lost no time in sending them off to the two men, with his own request for permission to study with them. On May 12, Farlow wrote:

I had a very polite letter from Thuret saying that he should soon leave Antibes for the summer and he should be happy to have me meet him this summer in the vicinity of Nantes or next winter in Antibes. I accepted the latter alternative with pleasure . . . Thuret wished, in very polite language, to be remembered to you and Mrs. Gray.

Of the new semester's work he said in the same letter:

I omitted to write you, I believe, that, during the vacation, De Bary had a call to Vienna which he declined. Since then Sachs has also declined. It appears that the University in Vienna is on the decline in every department except medicine and there is so much intrigue and chicanery at work there that no distinguished men will accept positions. It was a disappointment to me that De Bary didn't accept, as I should have then spent next winter with him in V. and this summer have gone to Munich.

. . . I returned here at the beginning of the semester. I do not regret returning. In a social point of view, the laboratory is not so pleasant as last semester since Rostafinsky and Suppanetz are gone and Stahl is at home most of the time getting ready for his examination in June. A new Pole is here, a beginner, and three students who only work three afternoons in the week. But De Bary is capital. He has a general course from 8 to 9 which I don't hear and then is in the laboratory nearly all the morning. He pays me a great deal of attention. At

present, I am on the Uredineen and I am cultivating rusts and inoculating sound barberry leaves. I have an ergot *Cultur* underway but, I am afraid, the material is poor. Tomorrow I begin on *Cystopus*. There yet remain the fermentation pilze which I shall soon take up. We have all been catching flies for *Saprolegnia* and *Achlya*. De Bary began today on Medicinal Plants to a class of 36, a large number. It was simple and practical, in short, excellent. The same cannot be said of Graf Solms' lectures which I attend simply from personal attachment not because I like the lectures. Systematic *Phaenerogams* is a hurried humble-jumble and Parasitic *Phaenerogams* once a week, considering the materials which he has spent so much time and money in collecting, are not very interesting. He is soon going to publish something on the latter subject. He has several 'junks' of *Rafflesiae* in alcohol . . .

The semester opened a week ago, on Thursday. De Bary, as Rektor, gave an address, delivery abominable, substance very good. De Bary's personal appearance is certainly unprepossessing. Everyone says, at first, is that man really De Bary? In the evening was a torchlight procession in honor of the three professors who declined calls to Vienna. The scene was very interesting as the procession passed by the Cathedral to the Palace where the Professors addressed the students. Afterwards they all marched to the Kleber Platz and burnt up their torches in a heap and sang *Gaudeamus* as at the funeral of a Chor student. At ten o'clock began the Commers and lasted till nearly morning. I left at two. 4500 glasses of beer were drunk on this intellectual occasion. The singing was at first splendid, afterwards slightly confused. There were generals and professors and students all mixed up together drinking, all dressed as gayly as possible. Gilkinet and I sat in the gallery where we could see the whole performance. There were speeches, songs, Salamanders, shouts, howls, and above all drinking. The scene was new and interesting and I shall not forget it. Several times the waiter upset our table with several glasses of beer upon it. Fortunately, the beer ran over onto Gilkinet's side and he soon got to be tolerably wet. After a while I found myself about ankle deep in beer and concluded to find another seat. I am happy to say that I managed to get along without what is here known as a Katzenjammer or as the students say a Kater. In the course of the evening Graf Solms appeared miraculously in the gallery with Dr. Schmitz and we drank the health of the University. What that means I don't know. Afterwards the ubiquitous Graf wandered round the hall holding up an empty beer glass until after a while he lighted upon General Carminsky and the two talked 'Faderland' till morning.

A letter from Cambridge in June left no doubt that Gray was looking forward to seeing Farlow established at Harvard on his return to America. Gray also suggested that it would be well to begin to work up some special research which could be published within the coming year, and Farlow immediately responded to the idea.

June 9, 1873

My Dear Farlow

You know how very busy I must have been — and still am, with Goodale gone since May 1. So you see why I have not promptly responded to yours of March 24, from Frankfurt, April 23, Heidelberg, & May 12, Strasburg — And even now — late in evening, I can only write a line.

You seem to be going on famously well, and doing your best and wisest. I am glad you are back with De Bary. And I like the way you are laying out your work for summer and winter. Especially I am glad of Thurets kind response to you, & that you will get some time with him next winter or early spring . . .

Mrs. Curtis writes that she has sent the Fungi; but I have not yet heard if your Father has received them.

Goodale has been appointed '*Assistant Professor of Vegetable Physiology & Instructor in Botany.*' — his name will go to Overseers, I think to-morrow. The Corporation begin to be anxious about Bussey School — wants some Professors to work there — & are *determined to have students*. Things are shaping as fast and formally as I could wish, — and when you come home — unless you are called away by better offers elsewhere, you will certainly find something to do here. I see they are beginning to *want you*, and you may fairly count upon offers when you come home — very likely before. I have said, that you can't think of returning to America for a year yet — perhaps not even then — your time & opportunity in Germany too valuable.

I think it best for you — after consulting De Bary as to what — to get up some research which you can publish in Germany — or — still better — send over for me to publish here — in Amer. Academy — or in Amer. Naturalist — according to circumstances.

Then another thing will be very well.

Send home to me, from time to time, notices of interesting works or researches, Botanical news — criticisms &c — to be published with your initials among the miscellanies in Sill. Journal. Or, if you will write some sprightly letters on such matters that I can print in Amer. Naturalist, it will be well.

But lose no working time. Solid work is better than any display . . . All good things you can send me to print, under your own name, or initials — which will duly be known — will be advantageous . . .

Ever yours truly

Asa Gray

Strassburg, June 30.

Dear Sir;

Shortly after sending my last letter I received your letter of the 9th and the notices of the death of Dr. Torrey and Sullivant. I was quite surprised to hear that the latter was dead and I had no idea that he was so old a man . . .

I have spoken to De Bary about some special work. He proposed, The fertilization and fructification of Agarics, ditto of the Oscillariae, ditto of Scenedesmus and the Entwicklung (cultivation and growth) of Oidium lactis. The last I selected but, as one may work an indefinite length of time without meeting with any success or result, I have also taken as *nebensache* or collateral, the microscopic structure and growth of the Haftorganen i.e. the disks of Ampelopsis, and the rootlets of Tecoma &c. From one or the other I ought to make out something.

As for writing notices, I should be glad to do that and must try and find time in the vacations. The following subjects suggest themselves: late German Botanical Text Books, reviewing Sachs and Thomé, Rostafinsky's Myxomyceten; or, possibly, Cornu, Saprolegnieen and Strasburgers, Coniferen. For light letters, an account of Upsala, and botanizing in the Vosges. I might give a detailed account of the management of De Bary's laboratory and cultures but that is too much like letting the public into the secret . . .

I should like, after finishing my studies to write a compendium, something like Sachs, about Algae and Pilze, giving the latest modes of working and results so far as known. Such a book is very much needed as Berkeley is thoroughly bad and there is positively no other book in English. The writing would serve for me as a review of my studies and could also be available as a text book in classes where I had to teach the subject. The first thing, however, is for me to learn the subject myself. Remember me kindly to Mrs. Gray.

Yours, respectfully, but tired,
W. G. Farlow.

Farlow left in August to spend a pleasant six weeks in Geneva with Dr. Müller, and returned regretfully to Strassbourg in October, to take the last of the courses with De Bary which he needed to round out his studies there.

Strassburg, Oct. 27th.

Dear Sir;

I am again installed in Strassburg and, after Geneva, dislike the place more than ever . . . In comparison with other cities, it seems barbarous . . . I found my six weeks in Geneva very profitable. Dr. Müller gave me an unlimited amount of attention and I was surprised to find how much, with his help, I was able to do in so short a time. I have no means at present, to repay his kindness. Of course, I thanked him and gave him a book as a memento, but it would give me pleasure, if you should hereafter, if you have occasion to write to him, mention that I have written you that I feel under obligations to him for his attention and instruction. While in Geneva, I had an opportunity to make several excursions into the Jura and mountains near the city, in which excursions I succeeded in collecting a large number of lichens which are not only numerous but valuable, as I have studied them tolerably carefully, and, also, saved duplicates with an eye to future exchanges in America. Although, perhaps, having studied lichens under the most favorable and agreeable circumstances possible, I must confess that I think they are the stupidest and, at the same time, the most difficult plants I have ever studied. However, if it is necessary for me to study them in America, I feel as though I had had a good preparation here. During the summer, I find that I have collected quite a lot of Erysipheen, Uredineen, Perinosporeen, and the smaller fungi generally and have laid by a number of duplicates which I think will be of good service, hereafter, in America.

So far, although I have constantly regretted being obliged to shut myself up in Strassburg, I feel as though I could no where else and in no other manner have learnt so much of that part of botany which I needed to know and which is in America entirely unknown, certainly practically. I have now learnt so much anatomy, that is histology, that De Bary doesn't advise my spending any more time on it here. Then I have studied the orders of minute fungi tolerably thoroughly. Of course, to know the subject perfectly is a work of a life time. I have learned De Bary's method and, although a knowledge of forms and species is here discouraged, I have learnt a great many forms and, with the knowledge of their development and growth which I now possess, the determination of species comes tolerably easy . . .

The remaining botanical subjects which I wish to study are, the development of the higher cryptogams, i.e. the fertilization of ferns, Marsilea, &c; second, the algae, marine and fresh water in respect to their development, and physiology;

and thirdly, a short study of the cell, in the abstract, as has been done by Hofmeister in his latest work. Whatever I now study comes a good deal easier than it did a year ago, showing that the somewhat slow preparation recommended by De Bary is beginning to bear good results. I don't feel as though I wanted to stay much longer with De Bary. I should only be continuing the same work I have already begun. It is simply now a matter of detail and, if I am to stay here, till I know all he can teach I shan't get back to America for a long time. If I should stay here too long, I should be more likely to turn out a botanist of the Graf Solms type rather than like De Bary himself . . .

If I can return in September, as I hope, the question will be whether to go to Pringsheim in May, which will perhaps be decided in the negative if I study fresh water algae with Thuret, which may be possible, or to go to Würzburg where Stahl and Gilkinet are going, and study the cell under Sachs and attend his course on general Vegetable Physiology without actually going through the experiments in his laboratory. In this way, I should get all the Physiology necessary for me as a cryptogamist. Brefeld is also a physician in Würzburg and is now studying hefe pilze and, perhaps, could help me some. I hardly think I should find it profitable to stay more than two months in Würzburg. Afterwards, there is nothing which I care specially to do but, perhaps, to visit Rabenhorst, of whom both De Bary and Prof. E. Fries have a poor opinion. Then a few days on the coast of France or England and a visit to the leading English cryptogamists . . .

I think now I have stated the whole story. I should like to return next fall. If it is necessary for me to remain a year longer, I must simply spin out longer the list of studies I have mentioned and, possibly spend a short time with Strasburger in Jena, and, although I should at the end of that time know more botany, I should, perhaps, be less qualified to teach in America. Whether, as far as America is concerned, the opportunity is good for my returning you know very much better than I. I think you also know from a former letter of mine that, although I should like to return to Cambridge, I don't feel as though my future success entirely depends on it. As I then wrote, I should like also to go to either New York or California should there be opportunity in either place. At any rate, I feel perfectly safe in trusting to you, knowing that you will recognize what is for my best interest.

Here in the laboratory are Stahl, Gilkinet, and Carminski who remain, and two new students, Prof. Czerokin of Kasan, Russia, and Dr. Linsted of Berlin who has written on Saprolegnieen. After Christmas, Dr. Schmitz goes to Halle as Docent and Rostafinsky, who is now in Petersburg, may take his place. De Bary repeats his course on Anatomy and soon expects to finish his book. Graf Solms also repeats his Cryptogams. In accordance with your request I have written four gossip letters for the Naturalist. I do not know whether you will not find them too light . . . I also send the promised critique on Thomé and Sachs. In a few days, I shall send notices of some recent magazine articles. I hope to be able to send you soon a critique or summary of the Lichen, algofungus question . . .

Farlow

These "gossipy letters" were edited by Gray, and soon appeared in three parts in the American Naturalist, vol. 8, 1874, under the title *Notes from the Journal of a Botanist in Europe. Part I. Sweden. Part II. Norway, etc. Part III. Geneva and the Alps*. Gray wrote on November 17:

I am arranging for the articles in *Am. Naturalist* — to begin in *Jany* no. Naturally enough these articles are not so *sprightly* as your letters. I wish you would write only on one side of your paper. I should like to *season up* the articles by *sandwiching* in bits from your letters.

On January 11, 1874, he announced their publication:

The 1st part of your *Notes* is in *Jany Naturalist*. It reads nicely. I have had proofs of the 2d — for Feb. number. I made it up out of your letters!

In the meantime, at the suggestion of De Bary, Farlow was at work on a new topic for research, which was to culminate in the much discussed paper on the discovery of apogamy in ferns. He first mentioned it on December 7:

Last week was rather an eventful one. I discovered an entirely new *Puccinia* on the common mallows in the botanical garden which germinates at this season. I presume De Bary will cultivate and describe it. My work has been the fertilization of ferns and a week ago De Bary found a case in *Asplenium molle* where the fern is produced directly from the prothallus without the intervention of an archegonium and fertilization. He gave that to me, as a subject to work up and I am now working busily away and have made quite a number of drawings. I shall finish the work as soon as possible for I want to go to Paris with Jackson about Christmas. However, I cannot leave till my work is completely done. It will probably be printed in the *Botanische Zeitung* and I will send you the same in English for the *Am. Journ.* if you wish. What shall be done about the figures? Had they better be copied from the *Botanische Zeitung* or shall I send you the drawings?

With regard to the letters I sent, it was difficult to say just how 'sprightly' I ought to make them. What I sent would here have been considered dreadfully frivolous. You did not say whether they wanted any more or not. You can make any insertions you please, but I don't want the editors of the *Nat.* to change anything.

With regard to sending criticisms or abstracts of magazine articles, now I am too busy with my paper to write any and if I am to leave sooner than I expected for home I ought to spend my whole time in study . . .

You will of course imagine that I am anxious to know what will be done in Cambridge this summer as my plans and travels may be so much affected thereby. If the college determines to introduce the study of cryptogamic botany I hope they wont forget that they must have microscopes. I think you will be disappointed when you again see me in the amount of systematic fungology which I have learnt but, on the other hand, I have studied development as applied to some of the minute forms, to a much greater extent than I should have ever done if I had not come abroad.

The work on the fern prothallus was not finished by Christmas, so instead of going to Paris, Farlow joined his laboratory friends Rostafinski and Gilkinet, in celebrating Christmas Eve with the lively De Bary family. On the following day he wrote his mother and sister his description of the festivities.

Strassburg, Dec. 25.

Dear Mother:

I take advantage of today to wish you all a merry Christmas. As far as I am concerned the day is Sunday intensified, that is very much quieter than Sunday is here. Last night we were invited to De Bary's to see his Christmas tree. It was all explained to me as though I had never seen a tree and Rostafinsky with his usual impudence and fondness for giving good advice hoped that I would introduce the custom into America. After the tree we had supper and at the end I was presented with a plate of candy on the top of which was a mock sausage for my benefit as I am so fond of such things. Today the weather is raw and foggy and I gave up my project of a long walk thinking the less I got of such air the better. This morning Rostafinsky made me a long call and this afternoon I called on Dr. Alexander and also took a look at the Vespers in the Cathedral where the altar was all lighted up. The soldiers had a tree in St. Thomas church but as there are 18000 soldiers I imagine that if one tree held all the presents a good many must have gone without. I should have liked to have seen the tree as it stood directly in front of the celebrated monument to Marshal Saxe which is very large and of white marble. Today the city has swarmed with soldiers and many of them being new recruits the uniforms looked clean and fresh.

Last Saturday I went to Frankfurt to see the Websters . . . In the evening a woman called who is keeping an American boarding house in Frankfurt. She had her pockets filled with great red apples she had received from America. After being so long in Strassburg the Frankfurters looked very swelly. The greatest treat at the Webster's is an American bed. That is, they don't have the feather plumons which the Germans always have. The plumon is a thing too large for a pillow and not large enough to cover me although I am not very long. Consequently as they don't have such things as bedquilts and comforters one's feet and hands are always out in the cold . . .

Your affectionate son,
William

Strassburg, Dec. 25.

Dear Mary:

Unless you consider yourself included in 'our' family I will wish you and your family a Merry Christmas. Last night I went to De Bary's to see his tree. I wasn't there at the opening at six o'clock being too busy to go so early. Mrs. Gilkinet was there and said there was a great running about and trying to look through the key hole. When I arrived I found the Norway spruce already lighted up. Instead of the hideous wax doll called the Christ child there was a bunch of gilded pine cones which Mrs. De Bary had prepared for the occasion. There were four children Wilhelm the oldest who was very sheepish and didn't say a word, August more lively, Marie, a rather too lively young lady six years old with a pug nose and little black eyes which are generally half strained out of her head by the two black pig tails on the back of her head, last night however her hair was flying in all directions, and little Hermann with very red cheeks and blue eyes. The presents were put on little tables near the tree. Hermann was perfectly absorbed and could not say a word all the evening. All the boys had a lot of soldiers. They seemed to have more toys than American children. Marie had only four dolls and a doll house besides a lot of other stuff and the older ones had books and games. The candies and cakes were a sight to behold and

came from all parts of Germany from Berlin to Strassburg. There was a young law student named Von Jacoby from Berlin who had a table with presents. He seemed to be a sort of protégé of Prof. De Bary's. He had an enormous mouth out of which he spilt his words. His conversation was principally about how much beer they could drink in his Chor. On his table were a lot of gloves, and such gloves. The Germans never wear any which are not ten sizes too large. There was an indescribable thing which Rostafinsky told me was a Pommern Gänsebrust and a great delicacy. It was a great goose skin sewed up at both ends and dripping with oil. It was full of uncooked smoked goosemeat and said to be delicious! The Pommern geese are very celebrated. There were also Erlangen Lebkuchen and Berlin gingerbread and two cans of condensed milk on his table. Mrs. De Bary had amongst other things two bottles of arrack punch. At the table the company appeared much interested in my description of peanuts which they thought couldn't be very nice and they couldn't understand how our You meant the same as their Du Ihr and Sie. They of course didn't see the point when I explained how senseless and inconvenient their Sie was. The other day De Bary had a great present from America. A box containing a swamp pitcher plant, some hickory nuts and twelve cranberries. As I said they were good to eat they cooked them and liked them very well.

Today I dined with Gilkinet. I asked if his little Georgie 11½ months old was coming home with his Alsatian nurse to spend Christmas. Ever since he was born he has been farmed out to a peasant near Strassburg. His mother didn't know whether he would be at home or not today but had an idea, she wasn't quite certain, that he was to spend the day in some village near the Vosges. Such independence in a child of his age would be remarkable in America. His mother seemed very calm and philosophical on the subject. So is Prof. De Bary who after giving Hermann a glass of wine before sending him to bed refused to let August, aged 8 or 7 yrs., have any more because he brought on a typhoid fever last year by drinking too much punch New Years.

Will.

A few more days of hard work brought the paper to its conclusion and on New Year's Day, 1874, Farlow wrote:

Today I send you the manuscript of an article on which I have been studying some weeks. I presume you will think it very short for the time spent upon it but all such work requires an everlasting amount of time. The article seems to me not at all adapted to the Naturalist but rather to Silliman's Journal. You are at liberty to dispose of it as you please provided, wherever it appears, the drawings are as good as those usually found in the Botanische Zeitung. I must make this a condition because when printed I should feel bound to distribute a few copies in this region and if the execution was not up to the mark there might be some very invidious remarks made about American publications here. I wrote the first draught in German and then afterwards wrote in English, having shown the German to De Bary. I have made a German abstract which will appear at once without plates in the Botanische Zeitung . . .

There may be a good many clerical errors in my manuscript but there is no English speaking person here to whom I can show it. I should like to see the proof of the figures I send before the article is published.

Gray acknowledged the paper with a brief note on January 11:

Your New Year letter, and the Mss. & drawings have come to hand. I write a hasty line to tell you so. I think of reading your paper to the Amer. Acad. And, if they will engrave the drawings to print in the Proceed. — otherwise in Naturalist unless Sill. Jour. will engrave on stone or copper.

We will see soon. Your paper is very interesting!

On February 15 Gray sent the first proof.

I read your paper to Amer. Academy — it is accepted for *Proceedings*. Here is a rough, unread proof. I may keep it back till I can get corrections from you.

That the figures may be photographed for the new process of reproduction, I have to get the drawings gone over in *pen & india ink*: pencil will not do.

Farlow returned the proof from Antibes, where he was enjoying at last his long anticipated visit with Thuret, and he protested that the drawings were not in pencil, but in neutral tint, and should not be inked over without his supervision. On March 21 he wrote again from Antibes.

A week ago I returned the proof corrected which you were so kind as to send me. Last night Rostafinsky and Janchewsky arrived and Rostafinsky said that the fern prothalli are now grown up into *Pteris cretica* instead of *Aspidium molle*. Today De Bary sent me a copy of the *Botanische Zeitung* with my short German extract in which he had changed *Aspidium molle* to *Pteris cretica* throughout. Will you be kind enough to do the same with the English or if it is too late for that, to write a little note at the end saying that in consequence of the further development of the prothalli enabling the species to be accurately determined it is necessary to change the *Aspidium* for *Pteris cretica* throughout. I thought myself that it was more probably *Pteris cretica* but De Bary thought the contrary. Now it is settled.

Gray replied disconcertingly that the "proof returned came *just too late*," and Farlow wrote again on May 4:

I reached Strassburg Saturday evening and, on my arrival, I found yours of Apr. 10th which had been forwarded from Antibes. I am quite anxious about the publication of my article as the preliminary remarks in the *Botanische Zeitung* have been attacked on all sides particularly in Berlin and Würzburg. I don't understand exactly what you mean by my proof arriving too late. I hope you do not mean that it has been published just as it was. If so, don't let a copy get into Germany for there were some horrid mistakes in the quotation from Wigand. I hope also that the drawings are well done otherwise the remarks of the Germans, who don't believe the thing because it is contrary to their theories, will be disparaging to the last degree. For De Bary's sake as well as my own I must be extremely careful about the form in which the article appears.

The paper, titled *An Asexual Growth from the Prothallus of Pteris serulata*, was published in the *Proceedings of the American Academy*, vol. 9, 1874, and the correction of the name to *Pteris cretica* had to be made in a note at the end. That Farlow was far from satisfied with the appearance of the article is evidenced in his letter of May 21 when he wrote:

As to the Fern Prothallus, I must confess that I was decidedly disappointed in the appearance of the plates which fall very far short of those in the *Bot. Zeit.*

and the criticisms have been so unfavorable on the execution of the plates that I hope you will not distribute any copies in Germany. I may have to translate and reprint the article with better plates in the *Bot. Zeit.* As it is, I shall have to leave any preparations, which I should like to take to America, with De Bary who will show them to other botanists. I hope you have kept the drawings . . .

As Farlow's sojourn in Europe drew near its close he became more anxious about what he was to do on his return to America, and although Gray hoped and expected to have a place for him at Harvard, there was as yet no official confirmation of a position. On March 27 Gray wrote:

Presdt Eliot is in England, till May . . . My *impression* is that he wished in spring to put you on to the Bussey-foundation, & do some work there — perhaps start a *fungus*-laboratory — as well as here. I'll be responsible that you get the full of an Assistant-Prof. salary . . . & in time more . . .

As the Bussey develops, I think it likely summer work may be in order there. But if so, you will have an equivalent in winter. Do not fear about that.

The President is getting a great idea of the importance of *research* — and will see that you have a chance. As to Goodale's course of this summer, — as you need not begin till *1st August*, I advise you to agree to come & take it then — give a month to it — if you intend to come home this fall at any rate. — If you think of staying another winter, that is another matter.

I think it will be for your advantage to take hold of this work next summer — tho' it wont amount to much. It makes the right beginning.

The last letter from Gray which we have of this long correspondence expressed once more his confidence in the establishment of a cryptogamic laboratory.

Cambridge May 4, 1874

My dear Farlow.

Yours of April 11, came while I was in Washington. What I & Goodale had previously written will by this time tell you all we can say. *Presdt E.* is not home yet, — but may be expected to-morrow.

I see you are decided to come home this summer, any how. In that case, I would, if I were you, get home before the end of July. But I would not hurry to be here sooner. The summer course this year will not probably amount to much, but will lay a foundation. The plan of Goodale taking it for July, & turning it over to you in August is best — You will then work independently. And you can go on into Sept. if you like. We shall, I doubt not be able to establish a laboratory for Cryptogamic & Anatomical Botany, in which you can make name & fame . . . Your paper has done you great service. More of them, and your success as teacher will do the rest . . .

I am sadly hurried — will write again soon.

Ever yours cordially
Asa Gray

Farlow sailed for home in June, 1874, and immediately received from Harvard his appointment as Assistant Professor of Botany. He entered at once upon the task of creating a laboratory in cryptogamic botany and

phytopathology, and his subsequent success at Bussey and later at Cambridge has fully justified the years of preparation that had gone into his European study. He continued to keep in contact with his friends in Europe, and his correspondence with De Bary was maintained until the latter's death. A letter written by De Bary in the summer of 1877 is of special interest, as by giving news of the whereabouts of the students in the laboratory, and of the completion of De Bary's own book, it brings to a natural close the narrative of Farlow's two years at Strasbourg.

Montreux, August 17, 1877

Dear Mr. Farlow:

From the stamp you will see that I have taken refuge in order to get peace, not in the desert like the ancient prophets, whom I do not emulate in general, but at that very corner on Lake Lemman which you will remember as beautiful and quiet, especially at this time of year, because now people think it is too hot, while in winter the English and Berliners abound here. When you imagine this charming bit of land and water where redwood and giant trees, together with laurel, *Laurocerasus*, *Punica*, and *Passiflora* are being reflected in the blue surface of the lake, and right now the whole atmosphere is filled with the scent of the flowers of *Ligustrum japonicum* — while nearby the Phyllachora Congress is having its international meetings, and the wine ripens untouched by the disease these gentlemen are talking of — if you imagine all this, your heart will probably become reminiscent too, and you will forgive an old sinner inasmuch as he has retired to this idyllic spot in order to write you at last.

The narrator may proceed subjectively, so, I start with the news that the *Anatomy* is entirely finished four to six weeks ago, 640 plus 20 pages strong. I have been working desperately on it since last summer, except for a short interruption which I shall mention later. That's why you did not hear from me for so long a time. Two proofs which may have surprised you in April have been sent to you as a mute sign of life on my part . . . Since the middle of July I have finished everything excepting the last proofs. I have become human again, but I had to arrange and clean up so many things, and consider so many other matters that I could not find time to write a detailed letter.

The cleaning-up-process also includes working up the material that has collected in the last three or four years for your 'Pteris story.' I have finished this during these last days, and I hope to have cleared up this matter now as far as three species of ferns are concerned. Your side is thoroughly correct. It turns out — when compared exactly — to be a very instructive special case of a common phenomenon. With this I have come to answering your letters, for yours of last October starts with *Pteris*. As for the complaints which you add to your remarks, I can answer only with the wish that you may not take to heart what the American botanophiles and mycophiles say about you and Cooke. If you continue in the same way as in the last papers you sent me, these gentlemen will certainly come to reason, if not all, then at least many of them. It's not different with me: Berkeley and his set always consider my kind as very wretched fellows, and still, by now, all intelligent people know what they should think of it. The only way to achieve something, is not to let yourself be bewildered. I had a lot more trouble with Hallier, Sollman, Hoffman etc. than anybody has nowadays.

To continue with your mycological questions — I see in Fischer von Waldheim's new survey of the Ustilaginales that he indicates *Urocystis colchici* on

several monocotyledons, also on *Allium* (*A. rotundum*). On another *Allium*, *A. magicum*, he indicates another *Urocystis* species, *U. magica*. This is about all that is known about *Urocystis* on *Allium*. Considering the great similarity of the spore characters of most of the species a decision on the identity of species seems to be very difficult to me. Why are not all species of *Urocystis*, or all species on monocotyledons, a single species? I shall send your fungus to Fischer, so he can compare it with his materials. But I shall wait till winter because he is probably absent from Warsaw now . . .

You know all that's important about Rostafinski, that is that he is in Krakov, very industrious, and with good success. I would not know much more myself without going into details. As for Stahl, you probably don't know that he is privatdocent in Würzburg. He went there in the summer, and is very satisfied with everything thus far. I talked with him recently in Strasbourg, and I hope he will also write me.

You do not have to fear that Gilkinet has forgotten you even if he should not have written to you in the meantime. I can tell you so with certainty, for we talked about you very much when I visited him last April in Lüttich. Here in Strasbourg we had the same experience with him as you had — not a word from him. In April I had a chance to go to the Horticulture Exposition in Amsterdam, and I took advantage of this trip to visit him in Lüttich. After a very friendly reception, I soon found out the good reason for his personal and botanical silence — he has accepted the position of chargé de cours at the University, that is to say for pharmaceutical chemistry. He has to manage a chemical laboratory and, at least for a long time, he was entirely absorbed by the necessity of remodeling himself for work in this new job. This is understandable and it will justify him also in regard to you . . .

There is not much to say about Solms except that he is as you know him — short active semesters, alternating with long vacation trips. Last fall he was in Moscow and Stockholm, at Easter in Athens. Otherwise there were many changes in this laboratory. Dr. Wilhelm, whom you knew, is the only stable man. This summer it was very lonely, since, because of illness and other reasons, only two people were working. I shall send you some dissertations which were made during the last year . . .

In order to achieve a symmetrical conclusion to this letter, I shall talk subjectively again. In my house, everyone is rather well, and so am I, especially the last four to six weeks. I accompanied my family to Switzerland yesterday — they are in Interlaken again. I left them for a week to go here, and then to Bex (Rhône Valley) to the Swiss Meeting of Natural Scientists, and then to Interlaken, too. In mid-September we shall be at home again.

Goodby for this time, best regards from my family and myself, and do not punish me by too long a silence.

Sincerely yours

A. De Bary

HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS



Harris, Hilda F. 1945. "The Correspondence of William G. Farlow During his Student Days at Strasbourg." *Farlowia :a journal of cryptogamic botany* 2(1), 11–37. <https://doi.org/10.5962/p.316001>.

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