

September 29, 1929.

Dear Dr. and Mrs. Forkner,

Your card with the lovely Freiburg Cathedral, which I love so much, stands on my desk a constant reminder of where you are and your letter was most welcome. It quite took me back to the days long before the war when I was there too. The buying of materials for the laboratory was in my day too; I remember buying all my own glassware, alcohol and everything, both there and in Leipzig. Doesn't it make you realize how free everything is here.

We are in our new quarters and they are not as bad as my fancy painted them, but they are not as nice as our old rooms. The boys think that it's easier to do the work in them, but they are so much more dirty that they have to spend a lot of time cleaning up. Mr. Flinn worked very hard on them and made them just as nice as possible so that the only faults are the lack of sunshine and the noise and dirt of the new buildings. The new Institute North Building is all up in skeleton form and all the riveting was done during the summer. The Cornell Buildings are still awaiting six months of blasting which now drives most any leucocyte off the field.

We went right to work on the papers all seven of them. The one on the giant cells in the blood seems to me all ready as it is and very nice indeed. I think that it will go in with your name alone; Dr. Doan agrees and that seems to be a good way to settle that matter; the other giant cell paper seems to me a little thin and I think that Dr. Doan would like to do some rewriting on that one. We will both work over it and send you a carbon before we submit it for publication. Whether we shall get one or both colored plates I do not yet know. The work seems to me very fine to settle the problem and to explain all the transitions of sections so that I greatly hope for the two colored plates. I have had one talk with Dr. Flexner about it urging their publication. He has had lots of complications over papers this summer and his problem is to satisfy everyone or as nearly as possible so we can only wait and see.

Of the other five papers, four are practically ready; the first the phosphatid is all ready; the second the fatty acids all but the final copy. The third the controls needs a lot of re-writing. It too was much too thin and not logically written. In order to even the length I had to transfer all the discussion to this third paper; the rewriting is to put some logic into the story of the controls. We had planned as you remember to try 12 doses of dead tubercle bacilli in the amount equivalent to the phosphatid. We shall not do it for the first dose kills the rabbits. Too much protein involved. Wasn't that interesting? The we tried half the dose and that killed too but it wasn't a clean experiment for there was a nick in the wall of the intestine but on the under side. This week ought to see the finish of all five of the papers. The first three are to go in one number of the journal if they are accepted and Dr. Rous thinks that there will be no trouble. Then next week we shall start on the giant cell papers and give them the final revision, as I said above, practically limiting any additions to the general one.

Dr. Doan's work this summer was a great inspiration to him, and a great gain to the department. He came back quite content again. Petroff has associated all three strains into a virulent and avirulent strain. The avirulent form had more lipid and is more acid fast and more like the typical forms morphologically. The virulent one in some preliminary tests he and Doan made more like a septicemia. We are going

after it hot foot. It modifies our plans profoundly. It seems to me that it now is possible to repeat our separation of toxic protein and tissue-forming lipid action with these two living forms. Our bovine B 1 strain was perhaps 90 % the avirulent form and 10% virulent type. The part of Petroff's work given last spring at the meetings has been published in the Amer. Rev. of TB. This newer idea not. He is eager to co-operate with us and we are now innoculating only from pure colonies. Dr. Kahn is also to work with these dissociated strains. Dr. White is to come to see us soon. Just how he will react I am not quite sure, but I am convinced that Retroff's work makes the next hopeful step.

Dr. Wiseman, the new man from Indianapolis is fine. While he was waiting around for us to read papers, he decided to play with the crystals and has proved very nicely that they are on the slide before we put the drop of blood on. They are either from an impurity in the bromochromate or from the New York tap water. Heibelberger says that the New York water has lots of calcium. Isn't that rather of a joke on us. For his own problem he is to study injections of embryonic tissue juice into the peritoneum followed by embryonic liver and other things that seem hopeful to study the primitive cells and other reactions. I am sure that he will work well. I had planned for him to work on the pigeons, but Dr. Doan will not be ready to start them for too long.

Dr. Miller has not yet come; he is to be here about the first of November.

Dr. Swift's department is to be interested in the supravital through Dr. McUwen who worked with Cash's warm box all summer. Dr. Rivers has a new man coming who is to follow the blood in measles with the supravital so the work grows.

Our first plans are to follow the biological reactions in rabbits with the two new strains from the bovine and with in chickens with the two strains from the avian as our first adventure. We repeat the immunity work with smaller doses of organisms.

There is to be a big meeting in New Haven soon on the BCG. Dr. Park from the New York Board of Health is to lead the discussion for the Calmette side and Petroff for the other. I think that the whole department will go up to hear the discussion; it ought to be pretty fine.

The new work of Avery and Geobel just about to come out in the JEM sounds to me very wonderful. Don't miss it; its wonderful chemical work with the sugars.

Dr. Flexner asked me to write up the story of the entire TB work from the beginning for the Fall report. It is for the General Board of Directors and I have put a lot of time on it. I will send you a copy if I can get enough carbons. It was rather good fun writing it.

Your friend Mrs. Resor certainly puts things through and now I sit awaiting and reading the publicity. The photographers came Friday and took a lot of pictures in the new big laboratory which we did not get; they are supposed to have a lot of local color. I haven't seen her yet but have had two talks with the poor woman who has to write something about me. It is still a secret. Mr. Vance, the head of the Pictorial Review, has had a hemorrhage which sounds to me as if from a gastric ulcer. I do not believe that he will get back to the office as soon as they seem to expect. I fear that it may be quite serious.

I understand that the yellow fever workers are agreed over the virus now. Dr. Muller has our old room and Miss Tilden who is now on the staff has Dr. Doan's old office. A new man, Dr. Irwin, working with Dr. Webster has the room the blood counts were made in. All of the third floor has been given over to work that is directly under Dr. Flexner's supervision and that I judge was the reason for the

extensive moving this summer.

I am awfully sorry not to have you here in the Laboratory; it was a very great pleasure to me to have you for two years and I shall keep on hoping that things may turn out so that you will come back to the Institute some time. At any rate I shall follow your work with the greatest pride and interest. You have the real thing for research.

The Doans send their very best and all your friends here inquire often to know if I have heard from you. Let us know all the interesting things going on with you. Did you know that Resnikoff is to work with Schilling in Berlin this winter; he sailed a few days ago. The last JAMA has an article by him to the effect that the Schilling differential is of more importance than the rest of the blood count.

Very cordially yours,