

26.2.40.

Dhanksheti.

Shillong.

My dear Professor,

I am extremely sorry that I could not write to you earlier. As soon as I came back to Shillong after the Pujahs various examinations started and I could find no time to write out a description of the cryostat. Even now the final Intermediate exam. is going on and we have to act as invigilators in addition to the lectures. I am however sending now a description with a diagram. I have described the cryostat in great details and most probably it requires curtailling. My justification is that when I give it in great details you will know best what to keep and what to omit.

I hope work is going on in full swing ^{at the Association} and I am most unfortunate in not ~~being~~ being able to contribute a little to it. I would be very glad to know what works are now being done at the Association.

I have received a letter from Mr. Mukherji.

His college closes by the middle of March and he will be coming down to Calcutta. My College closes rather late in April but I will try to go to Calcutta one or two weeks earlier. Do you ^{think} it would be possible for us to do some work during the Summer? I think there is one month's holiday for the Association at this time. Will it hamper us in any way? We have very little time in which to do much work. I don't know what we shall be able to do. I occasionally feel rather despondent when I remember how at every step of misfortune has followed me. Fate has thwarted me ^{always} and now this job at Shillong which has cut me off from my work ~~is~~ is the worst thing. But as I have mentioned to you often I will not accept this fate. My only aim is to work under you, to help you in your work whatever little I can. As soon as I am in a position to leave this job I will go to you. Give me courage to stick to this determination.

Will you not come to Shillong sometime. It is such a fine place especially now when it is not very cold and the days are so exhilaratingly fine. It will surely afford you a much needed rest and tonic ^{up} whenever you require it. I do not know whether you have already visited this place. If not I am sure you will think it a place worth

visiting.

I met Mr. Aiyar, Mr. Narayanaswamy's father. He is such a nice gentleman. It was he himself who enquired about me, of some other gentleman. I felt ashamed that I did not meet him earlier of my own accord. But you know my nature. He spent quite a lot of his valuable time in talking with me.

Professor, will you please suggest me a few scientific topics on which I may speak in a popular way, without any demonstration experiments or at most showing such experiments which may be shown by means of very simple apparatus.

I am afraid I have already taken much of your time and you will excuse me. I hope you are doing well. With best regards from,
yours affectionately
Akshay.

11. 7. 41.

Dhanksheti.
Shillong.

My dear Professor,

Our college has started in full swing. I am proceeding slowly with the calculations because I do not find much time after looking through Practical notes, home tasks and preparing lecture notes. My principal is also trying to hitch me on to the B.T. class. He requires a science professor for the B.T. classes and wants me to take the training in my leisure hours. I am resisting him at present.

I have not as yet heard from you. I suppose the Association Committee has not met yet.

Please write to me at my home address
given above. I have quite often missed
letters sent to the College. Official letters
also should be sent to the above address.

I am anxiously waiting the
decision of the Committee. Please
let them understand that a good
programme of work cannot be worked
out in two or three years time. I
do not mind the money much. It
is the scope for work that I want.

I hope Mr. Guha is progressing
well with his work.

Hoping that this will find you
in best health. With best respects
from

yours affectionately
Akshaya.

Dhanksheti

Shillong.

15. 7. 41.

My dear friends
I am writing you
to know how
I am

My dear friends of
the association with
regards and with
affection
of Rose

My dear Bhagawatibabu,

Excuse me for not writing so long.

I hope earnestly that your work is going without any hitch. Please write how far you have progressed. Is Mr. Krishnamurthy troubling you in any way? Do not let him disturb you now. Have you received any letter from Ashubabu? How about others at the association.

I am passing my days in great anxiety. I have not received any letter from Professor containing any news good or bad. On the other

hand my Principal is insisting on my taking B.T. training. Last date of admission being 21st. Once I get in it will be very difficult to get leave if I am appointed at Calcutta. That will mean I will have to resign ^{from here} which certainly will lead to a lot of upsetting of plans. It may so happen that finally I am not appointed & I can neither get into the B.T. class. You can easily understand my ~~of~~ state of mind.

Then again if I have to go in for B.T. it will mean I will lose all contact with Science, and all my future hopes will be gone. Please write to me soon informing me about the situation, whether bad or good.

20th July 1941.

Dhanksheti

Shillong.

My dear Professor,

I hope that by this time you have received my previous letter. I am growing rather anxious for the results of the meeting of the committee there.

Especially your silence is rather ominous. Perhaps it is proving more difficult, to carry the matter with the committee, than we expected.

I have told you before that I am not much concerned for the money. If you can manage for more, certainly it would be welcome but I am prepared to go there even at less than what I am getting here

But the period should be long enough to allow me to do some really good work. If they want they might have a short probationary period. If they are satisfied they may put me in a grade. However I leave these things entirely to you.

Circumstances here is not quite to my liking. My Principal is insisting on my taking up B.T. training. I may not be made permanent if I do not oblige him. It will not of course be difficult for me to get the degree. But once I go for it that will mean giving up all my cherished hopes. I shall loose contact entirely with Science. My outlook will have to be entirely changed. That will be the greatest disaster in my life that I can think of. It may even

mean delaying my thesis. The course of study is extremely heavy and entirely new for one who has specialised in Science and will require intensive study.

Then there is another difficulty. I may be forced to join the classes soon. If I then get the appointment at the Association, it will be impossible to get leave. I will have to resign and go. For me it is nothing but then it will not be possible to install Stripes in my place.

I am wishing every day that some news good or bad will come but day by day I am feeling more and more despondent. Of course I know that I must put all my faith on you and it is this that has made me an optimist throughout my

career and carried me through my difficulties.
But anxiety and nervous strain tells.

Anyhow I am fortunate that you
have given my unworthy self such great
honour and it will be the greatest day
in my life when I can bring
myself upto your expectations.

With best regards I remain,

yours affectionately

Akshaya.

24th August, 1941

Dhanksheti
Shillong.

My dear Professor,

Please, excuse my not writing to you earlier. My calculations are virtually finished. I have calculated the spin-orbit coupling from the ~~average~~ values of μ^2 . For nickel ammonium and potassium sulphates the values come out to be -300 cm^{-1} . For the fluoborate the ^{actual} value is not satisfactory ~~but~~ ^{being too low} the value of the const. $\frac{B}{A}$ in the formula $\mu^2 - g = A - BT$ is of the order of 10^{-3} . This is to be expected in view of the sensitivity of the formula to slight changes of μ^2 . It is to be noted also that the absolute value for this salt at room temp. from Ashelbaum's paper is ~~a bit~~ appreciably higher than those for the others. For CoCs_2Cl_4 using the analogous formula I get $\lambda = -166 \text{ cm}^{-1}$. Not bad?

The values for λ from anisotropies have not however been so satisfactory. For Nickel amm. ~~pot. sulphate~~ values are ^{rather} ~~not~~ unsatisfactory about -280 cm^{-1} . For pot. sulphate and amm. fluoroborate the values lie between -340 & -350 cm^{-1} . It must be remembered that we cannot claim in these the same order of accuracy as we obtained in NiSeO_4 & NiSO_4 , where we measured about 25 to 30 crystals and at two temps. only ^{for most of them} 1 so that it was possible to take these two readings with a high degree of precision.

Then even this formula is quite insensitive to fairly large changes in λ . A change of 2% in the ratio between anisotropies may produce a 6% change in λ . i.e. λ may change from $-330 \rightarrow -310 \text{ cm}^{-1}$.

I wish that I had been at Calcutta at this time since I would have

obtained your valuable suggestions and opinions at once.

As suggested in your telegram I ~~felt that~~ tested whether the Principal would give me leave or not. But it seemed that ~~they~~ he was not quite willing, so that I did not press him further at that time. In view of the delays at the Association in arriving at a decision it was perhaps better that I did not. I would have just lost the pay for this period, both ways.

I have heard since from Mr. Guha that a subcommittee has been formed and the matter will be delayed considerably. Of course a little delay ~~does~~ does not matter if one is certain about the end. But if after considerable delay the proposal is shelved somehow or other by the subversive elements then it may be quite serious for me.

~~effect may be in a large measure for me.~~

I am hoping fervently that the committee will soon come to some favorable decision. These official formalities are really horrid and we in this country have acquired this virtue with a vengeance.

Hoping that this will find you in the best of health. With the best respects from

Yours affectionately
Akeley.

Confidential .

28.3.42.

Science Association
Calcutta.

My dear Professor,

I hope you have received my first letter. The committee meeting took place on the 26th, but I did not write to you immediately since we were expecting further developments. I understand that Dr. Mukherji received a letter from you on that date to the effect that we three be allowed to work at Allahabad. But as I mentioned in my previous letter the committee would not hear of only a ~~any~~ part of the Association ~~to~~ going anywhere. So that they ^{have} did not agree to the proposal. Amongst the other

resolutions ^{taken by 2.} of the committee, Prof. Saha was put in charge of the laboratory until a new professor was appointed. The books and more valuable apparatus are to be sent to Krishnagore. Yesterday we three were called to report to Prof. Saha. We had a long talk with him and were able to convince him that under such circumstances there was ~~not~~ point in keeping the laboratory open. Finally it was decided by Prof. Saha and Dr. Mukherji, who came in the meanwhile that Association shall be closed for summer vacation from the middle of April to the 1st week of June. ^{for the time being (the holidays may be extended)} But we three shall be given holidays upto the 1st week of July. We shall receive two months salary in advance, and no questions will be raised about

where we go, in order that we may finish writing out our theses. The other scholars also will go for the time being wherever they like and will receive scholarships in advance. Don't you think that under the given circumstances this is the best bargain out of the muddle? Since it will ^{enable} ~~allow~~ us to go to you at Allahabad and at the same time Association will be paying all three of us. We shall draw salary from here as long as we can and then we can think of other means.

Anyhow, we should have our theses ready within this time. Otherwise we can no longer look people in the face. Once you have made up your mind ^{to sit down with the data} there will be no difficulty. You are able to do it within a few days, I know. We shall join you by the middle of April if

everything goes right.

Just now I am told by Ashubabu that you ~~have received my letter and~~ are writing to me as soon as the decision of the Committee is known to you. When is the Allahabad University closing down for the summer?

Will it not be possible, at least, ~~to~~ use the library there during this time?

I hope that you are liking Allahabad immensely. With best regards, from

yours affectionately

Akshay

7. 4. 42.
Science Assn.
Calcutta.

My dear Professor,

I have received your letter. I am really surprised at the action of Assn. Committee ⁱⁿ not accepting your invitation. It is difficult to understand the mentality of these people here. The atmosphere is full of red-tapism of the worst type ~~even in this day~~ and suspicion even at this crucial period. We are feeling it at our own cost everyday.

The situation at Calcutta is deteriorating rapidly. Alert signals are coming though there has not been an actual raid as yet. Colombo, Vizagapatam, Coconada, have been bombed heavily. Akyal has fallen and enemy navy is operating in the Bay of Bengal. No doubt

you ~~already~~ know about these already. Assm. may close down for summer within a few days. The situation all over Bengal and Assam is becoming rather unstable. It seems that as soon as the Assm. closes ~~o~~ I shall have to proceed home to arrange for the removal of my family to some interior ~~village~~ place from Dacca which will be much safer. There are such places and it is better to shift them immediately in view of the impending danger, before it is too late. After that, it may be possible for me to proceed to Allahabad. You did not mention in your letter, whether there may be any difficulty for me to join you as assistant at Allahabad, as you said you would do after consulting proper authorities. Really, I am becoming fed up with the affairs here and feeling it humiliating to be still under ~~their~~ ^{of the people here} heels ^{receiving salary} from them. It is impossible to retain self respect under them. Those who have once served under you can scarcely reconcile them

to this situation. Mukherji is also thinking of giving up the job here and going away home.

Today I have seen an advertisement in papers for a lecturer in Physics at Allahabad Univ.

It seems to me that if you can place Mukherji in this post and take me as your Assistant it will be a solution to our difficulties and we would be contented that our desire of serving you in your march towards higher fame, has been achieved. Will you not do it, Professor. Mukherji is sending an application to you, which if you think advisable may be handed over to the Registrar's Office.

If you write to me later than 10th April please do it to my Dacca address, [14, Jai Nag Road]. We shall be waiting anxiously for a reply. I hope that this will find you in best health. With best respects from
yours affectionately
Akshay.

23rd April 1942.

14, Jaichandra Nag
Road

Dacca.

My dear Professor,

I hope you have received my letter, which I wrote to you before leaving Calcutta. The Science Association closed down for the summer vacation on the 11th April. As the situation at Calcutta was extremely bad at the time we thought it advisable to come to Dacca. As I wrote to you earlier we have been paid two months salary in advance and cannot join any other place officially ^{— unless of course we refund the money —} before June, though we can work anywhere non-officially. I hope you received Mr. Mukherji's application for the lectureship at the Allahabad University in due time. It was on my advice that he applied for it. For it is my

For, while at Calcutta you told me that there will be no difficulty for you to take me as your assistant there; difficulty was only with Ashu babu. As a highly qualified man with University teaching qualifications it may not be difficult to take him in as the lecturer. It was with the hope that this procedure would provide a solution for our difficulties that I advised him to apply. We are rather anxious to know whether any result has been obtained to this purpose. As I wrote to you that after June we have no intention to stay any longer at the Association. Perhaps you have come to know by this time how with red tapism the Association committee prevented you from getting the apparatus you wanted as a loan from them. I wrote something about that earlier to you and now you must have come to know further details from Mr. Chorghade or Krishnamurti. I am entirely disgusted with the affairs at the Association

and do not want to stay there a moment more than is necessary.

At present, I am at Dacca at the above address. I am attending the University Library and collecting a detailed reference for the thesis. Ashutaban and Bhagawatibabu are also here. We are anxiously waiting to hear some good news from you. We can join you as soon as you want us. With best respects from

yours affectionately
Akshay.