

No. DB/2073

12 March 1959

14

Dear Krishnan

I am writing in continuation of the brief talk I had with you some time ago regarding a meeting in India of the Pugwash Conference of Scientists. I have had some informal correspondence with J. Rotblat and Eugene Rabinowitch^{and} I am giving some extracts from my letter of 26 December 1958 to Rotblat in which I had mentioned that our Prime Minister has given general approval to have the proposed meeting in India in 1959-60.

2. The Continuing Committee of the Pugwash Conference would welcome a meeting in India in the winter season of 1959-60. I am giving below some extracts from Rabinowitch's letter of 9 January 1959:

"As far as our "Pugwash meeting in India" is concerned, what about holding it next winter, perhaps around New Year, making possible the attendance of some scientists at the regular Indian science congress? This would give enough time for thorough preparation. I believe that the attendance should be of the order of 40 people, perhaps 25 from the developed and 15 from the underdeveloped nations. I hope you will discuss the program more specifically with Harrison Brown, so that we might have a preliminary outline by March."

Harrison Brown (who had attended the Kitzbuhel-Vienna session) was to have come to India this month (March 1959) to discuss plans for an Indian session; and I was waiting for his arrival. Rabinowitch in his letter of 27 February 1959 has, however, informed me that Harrison Brown would not be able to visit India in the near future.

3. It has been generally agreed that discussions in the Indian meeting should have special reference to broad problems of national development. It may be also useful to include more specialized discussions on the organisation of scientific and technological research, and on the demand and supply of scientific and technical manpower in underdeveloped countries.

4. We may accept Rabinowitch's suggestion of 40 participants from outside India as a provisional figure for our own planning; the actual number can be decided at a later stage.

5. The selection of Indian participants will have to be settled by us in India. It would be desirable to choose only such Indian participants as would be able either to prepare really useful papers or to make serious contributions to the discussion. I think we should try to select really competent and outstanding men even if this means rather a small number of Indian participants.

6. I believe it would be useful to set up a small Organising Committee in India. It would seem proper for Bhabha, Krishnan and Mahalanobis (the 3 Indian scientists who participated in the Kitzbuhel-Vienna session of the Pugwash Conference in September 1958) to act as a nucleus Committee. If you agree, we three may now take

the initiative in setting up the Organising Committee (which may co-opt additional members, if necessary, at a later stage). One of us may perhaps act as the Convener, at least, in the initial stage.

7. The Organising Committee should then :

- (1) prepare a provisional agenda or a list of topics for the meeting;
- (2) prepare a preliminary list of Indian participants; and
- (3) settle provisional dates and the place of the meeting.

8. We should also try to raise some funds in India to meet a part of the expenses of the Conference. It would be very grateful if we can offer hospitality in India to the foreign participants (as was done by Austria for the Kitzbuhel-Vienna session). It would be also worth considering whether we can offer concession fares for ~~some of~~ the foreign participants by Air India International and Indian Airlines Corporation. Such an offer would be highly appreciated; would not involve any expenditure in foreign currency; and need not necessarily involve much expenditure in Indian rupees. If the foreign scientists come by flights which are not full, the actual expenditure would be extremely small.

9. Besides attending the Pugwash Conference the foreign scientists would be able to give lectures or have discussions in our scientific institutions and universities; they can also attend the Indian Science Congress session. I believe it would be convenient if the Indian Organizing Committee can take charge of the whole of the Indian programme.

10. Please let me know your first reactions at your earliest convenience. I shall go to Delhi on March 18th; and halt there for about ten or twelve days. It would be of great help if you, Bhabha and I can meet in Delhi and discuss the matter further.

Yours sincerely,

K. Mahalingam

Dr. K.S. Krishnan, F.R.S.,
National Physical Laboratory,
New Delhi.

No. 3564/SA/59

8 APR 1959

6 April 1959

My dear Krishnan,

I am writing in continuation of my letter of 12/14 March 1959 regarding an Indian session of the Pugwash Conference of Scientists.

2. I am giving below extracts from Bhabha's letter of March 17th.

"Thank you for your letter of March 12. I agree generally with what you say. My only suggestion is that Kothari's name might be added to the Organising Committee.

I am sorry I shall miss you, as I have to leave for Bombay today, but I expect to be in Delhi again for the forthcoming meetings of the Council of Scientific & Industrial Research towards the end of the month. I look forward to seeing you then."

3. Bhabha and I discussed this matter further on March 31st in New Delhi. I also had a talk with D.S.Kothari yesterday. He is willing to serve as a member of the Organizing Committee. I pressed him to act as the convenor; he is not agreeable but has promised to give all possible help.

4. I am also enclosing a copy of a letter dated 25 March 1959 from Professor Harrison Brown and a draft of a reply I am thinking of sending him. Please let me know whether you approve the draft generally and also let me have any further suggestions which should be included in my reply.

Yours sincerely,

P. C. Mahalanobis

Encl: 2

Dr. K. S. Krishnan, F.R.S.,
Director, National Physical Laboratory,
New Delhi.

15 APR 1959

No.DB/27

9 April 1959

My dear Krishnan,

We understand that it may be possible for Professor Albert Claude, M.D. (formerly of the Rockefeller Institute of U.S.A., and at present Director, Jules Bordet Institute and Head of the Laboratoire de Cytologie et de Canderologie Experimentale, Universite Libre de Bruxelles, Brussels) to visit India in the winter season of 1959-60. He has wide experience of cytological and cancer research and electron microscopy, and we are thinking of asking him to give some lectures in the Biometry Department of our Institute.

I am writing to you as you may also be interested to invite him to visit the National Physical Laboratory and give some lectures on electron microscopy. If so, it would be desirable for us to prepare a coordinated programme and to let Dr. Claude know our suggestions in advance so that he can make necessary preparations for his lectures before he comes to India.

The Indian Statistical Institute will make a suitable contribution to meet the expenses of his visit to India. I presume you would be able to meet the hotel and other local expenses during the period of his visit to the National Physical Laboratory, and also share a proportionate part of travel expenses either from Calcutta or from some other centre to your own. I should be grateful if you would kindly let me have your suggestions in this matter at your earliest convenience.

Yours sincerely,

P. C. Mahalanobis

Dr. K.S. Krishnan, F.R.S.,
Director, National Physical Laboratory,
Hill Side Road,
New Delhi.

No. DB/84

19 April 1959.

21 APR 1959

My dear Krishnan,

I am writing in continuation of our conversation over the telephone last week in New Delhi. I am glad you would like Dr. Albert Claude to give lectures or discussions at the National Physical Laboratory.

Dr. B. Mukerji of the Central Drug Research Institute, Lucknow, would invite Dr. Claude to visit the CDRI. I am enclosing a copy of the letter I have sent to Mukerji in this connexion.

I hope you will kindly explore possibilities of meeting his travel expenses (between Calcutta, Lucknow and Delhi) being met jointly by NPL and CDRI.

Yours sincerely,

P. C. Mahalanobis

Encls:

Dr. K.S. Krishnan, F.R.S.,
Director, National Physical Laboratory,
Hill Side Road,
New Delhi.

sdg

19 April 1959.

No. DB/83

My dear Mukerji,

I am glad to get your letter No. DIR(10)58-visit of 13 April 1959. Dr. Albert Claude is a distinguished scientist and I am giving below some particulars about him :

He was born in Belgium in 1899; took his M.D. from Liege in 1928, and Berlin in 1929; and joined the Rockefeller Institute of Medical Research in New York in 1931 and worked there for nearly 20 years. He was appointed the first Director of the Jules Bordet Medical Research Institute in Brussels 8 or 9 years ago; and this Institute has become internationally known. Dr. Claude did pioneering work in cell-structure; tissue permeability; chemical nature of morphological constituents of protoplasm; etiology of filterable tumors; and early studies on virus. In Brussels he has been working on the use of high magnification electron microscopy for virus and cancer research and also on experimental biological studies. He speaks English fluently and has very wide cultural interests.

I am glad that you will be able to take care of his local expenses during the period of his visit to Lucknow. K.S. Krishnan would like to have him at the National Physical Laboratory in New Delhi. It may be therefore possible for NPL and the CDRI jointly to meet his travel expenses between Calcutta and Delhi. I should like you kindly to see what you can do in this matter.

Dates and titles of lectures would be, of course, settled to suit your convenience.

With best wishes,

Yours sincerely,

Dr. B. Mukerji,
Director,
Central Drug Research Institute,
Chattar Manzil Palace,
Lucknow.

sdg

Copy to Dr. K.S. Krishnan, F.R.S., Director, National
Physical Laboratory, New Delhi

P. C. Mahalanobis

G. MAHALANOBIS, F.R.S.

INDIAN STATISTICAL INSTITUTE
CALCUTTA-35

No. DB/91

20 April 1959

24 APR 1959

Dear Bhabha,

Many thanks for your REF:DAE/
C/35-B/3410 dated 14 April 1959 which
I received today in Calcutta after
redirection from Delhi.

It is very encouraging to
know that you would prepare a paper
on energy requirements.

I am enclosing a copy of
the letter I have sent to Brown.

Yours sincerely,

Dr. H.J. Bhabha, F.R.S.,
Atomic Energy Commission,
Apollo Pier Road,
Bombay-1.

Copy to Dr. K.S. Krishnan

G. Mahalanobis

Draft reply from P.C.Mahalanobis

Dear Dr. Brown,

I am glad to get your letter of 25 March 1959 but I am sorry it was not possible for you to come to India in February.

2. We have had some preliminary discussions regarding the proposed Pugwash Conference in India. An Organizing Committee has been set up with Bhabha, D.S.Kothari, Krishnan, and Mahalanobis as the initial members; other members would be coopted as necessary. I have also had personal discussions with Bhabha and Kothari in New Delhi last week. I shall mention briefly some of the points covered during these discussions.

3. We are all agreed that the Pugwash Conference should not be a part of the programme of the Science Congress which would be held in Bombay in the first week of January 1960. Our present idea is to have the Pugwash Conference at a quiet place away from the big cities. Jaipur (which is about 150 miles from Delhi and about the same distance from Agra with excellent road, train, and air connexions) is one possibility; there are other suitable places and enquiries are being made in this regard.

4. We think about a week would probably be a suitable period for the duration of the Conference. The end of December of 1959 would be suitable for the Indian participants but, naturally, the dates would have to be settled to suit the convenience of the foreign scientists. We should like the Continuing Committee to consider the question at an early date.

5. We shall try to raise some funds to meet the local expenses of the Conference and, if possible, to offer hospitality to the participating scientists during the Conference week.

6. We think it would be desirable to limit the Indian participants to persons who would be able either to prepare, in advance, papers for the Conference or to make serious contributions to the discussions.

7. I am sorry I received your letter after our discussions in New Delhi were over. I am, therefore, giving a few comments of my own. An orientation discussion, I think, would be most useful. Also, I think a discussion of the major differences between the problems of development today and those of 50 years ago.

8. Some discussion on specific areas would be desirable but I doubt whether taking up 9 countries would be advisable; the discussion is likely to become much too superficial. I feel it may be wise to restrict the discussion to a small number of carefully selected countries. A somewhat detailed study of Indian problems may be fruitful because a good deal of supplementary information would be available on the spot and also because the guest scientists would be able to study a good many things for themselves.

9. I also agree that there should be some discussions on specific problems, but again I am a little apprehensive that the subject coverage proposed by you may be somewhat too wide and may lead merely to the repetition of platitudes. To be quite frank, I think the time has come to go a little deep into a few carefully selected topics. From your list my own choice would be (V) Scientific and Technological Manpower, and (VII) Energy. Much discussion has taken place and a good deal of literature is already available regarding most of the other topics. I think your (VIII) Automation and Capital Investment may be quite useful; and we must, of course, have (IX) What the Scientists Can Do.

10. I should like to add Problems of Industrialization as a central theme because I am convinced this goes to the heart of the matter. That is, I feel that the basic issue is whether industrialization is to be recognized as the only real method of improving the level of living in underdeveloped countries (with, of course, a simultaneous improvement of agricultural production and fuller exploitation of other resources). I am aware opinion may be divided on this point but I think we should face the issue squarely.

With best wishes,

Yours sincerely,

Professor Harrison Brown,
California Institute of Technology,
Pasadena,
California,
U.S.A.

Copy of letter dated March 25, 1959 from Dr. Harrison Brown, California Institute of Technology, Pasadena, California to Professor P.C. Mahalanobis, Calcutta-35.

"Since the first of this year I have been so heavily loaded with obligations in Washington that I have had all too little time to think about specific suggestions for the Pugwash Conference in India. Indeed my obligations in Washington caused me to cancel my plans for visiting your country in February, at which time I had hoped to discuss some of these problems with you.

My travelling has now eased off considerably with the result that I am now able to devote some time to thought concerning what might be done at a meeting in your country.

Concerning the time of the meeting, I agree with you that it would perhaps be advisable to schedule it so that the participants would be able to participate also in the All India Science Congress in December. I would be inclined however to avoid making this meeting a part of the Science Congress.

Concerning the location, it would be very nice if we could hold the meeting in a quiet place away from the larger cities.

I have given some thought to the topics which might be discussed and have come up with the following suggestions for a program which might be called "Science and Technology in Relation to Problems of Economic Development",

I believe that the first two days of such a conference could well be devoted to orientation discussion. It is my general experience that most scientists are not particularly knowledgeable concerning these problems with the result that background material can be very important.

I. General Introductory Session (Full day)

1. Statement of the Problem in World Perspective (1 hour)
2. Case histories: The Industrial and Demographic Evolution of & Specific Areas
 - a) The United Kingdom 45 min.
 - b) The U.S.A. 45 min.
 - c) The U.S.S.R. 45 min.
 - d) Japan 45 min. (4 and 1/2 hours)
 - e) China 45 min.
 - f) India 45 min.

II. Broad Problems of Future Development (Full day)

1. Discussion of the major differences between the problems of development today and those of 50 years ago.
2. Discussion of the Prospects, plans and problems of specific areas.
 - a) India
 - b) China
 - c) Pakistan
 - d) Palestine
 - e) United Arab Republic 30 min. each (4 1/2 hours)
 - ff) Ceylon
 - g) Burma
 - h) Indonesia
 - i) Brazil

Detailed Discussions of Specific Problems

- III. Public Health, Demography and Fertility Control (Full day)
- IV. Science, Technology and Food Production (Full day)
- V. Economic Development in Relation to the Availability of Scientific and Technological Manpower (1/2 day)
- VI. Economic Development in Relation to the Availability of Mineral Resources (1/2 day)
- VII. Economic Development in Relation to the Availability of Energy (1/2 day)
- VIII. Technological Advance, Automation and Capital Investment (1/2 day)
- IX. Summary Discussion of What the Scientist can Do. Recommendations. (1 day)

I would be very much interested in hearing the status of your own thinking concerning the proposed conference.

With best wishes,"

No. DB/92

Professor P. C. Mahalanobis, F.R.S.

Indian Statistical Institute,
Calcutta-35.

20 April 1959

Dear Professor Brown,

This is in continuation of my letter of 14 April 1959 regarding an Indian session of the Pugwash Conference of Scientists in 1959-60.

2. Dr. Homi Bhabha has suggested the 15th to the 21st December 1959 for the Conference period. This would be the most convenient time from our point of view. We should now like to have your views.

3. Bhabha has agreed to prepare a general review of long term energy requirements.

4. According to present plans, I am leaving for Moscow on April 23rd and hope to go to London for a short visit probably between May 14th and 23rd. My address there will be c/o. The High Commission of India, India House, Aldwych, London. I shall try to meet Professor Rotblat and Professor Powell if they happen to be there at that time.

Yours sincerely,

Sd/- P. C. Mahalanobis

Professor Harrison Brown,
California Institute of Technology,
Pasadena, California,
U. S. A.

No. 3573/SA/59

8 King George Avenue
New Delhi-2

14 April 1959

Dear Dr. Brown,

I am glad to get your letter of 25 March 1959 but I am sorry it was not possible for you to come to India in February.

2. We have had some preliminary discussions regarding the proposed Pugwash Conference in India. An Organizing Committee has been set up with Bhabha, D.S.Kothari, Krishnan, and Mahalanobis as the initial members; other members would be coopted as necessary. I have also had personal discussions with Bhabha and Kothari in New Delhi last week. I shall mention briefly some of the points covered during these discussions.
3. We are all agreed that the Pugwash Conference should not be a part of the programme of the Science Congress which would be held in Bombay in the first week of January 1960. Our present idea is to have the Pugwash Conference at a quiet place away from the big cities. Jaipur (which is about 150 miles from Delhi and about the same distance from Agra with excellent road, train, and air connexions) is one possibility; there are other suitable places and enquiries are being made in this regard.
4. We think about a week would probably be a suitable period for the duration of the Conference. The end of December of 1959 would be suitable for the Indian participants but, naturally, the dates would have to be settled to suit the convenience of the foreign scientists. We should like the Continuing Committee to consider the question at an early date.
5. We shall try to raise some funds to meet the local expenses of the Conference and, if possible, to offer hospitality to the participating scientists during the Conference week.
6. We think it would be desirable to limit the Indian participants to persons who would be able either to prepare, in advance, papers for the Conference or to make serious contributions to the discussions.
7. I am sorry I received your letter after our discussions in New Delhi were over. I am, therefore, giving a few comments of my own. An orientation discussion, I think, would be most useful. Also, I think a discussion of the major differences between the problems of development today and those of 50 years ago.
8. Some discussion on specific areas would be desirable but I doubt whether taking up 9 countries would be advisable; the discussion is likely to become much too superficial. I feel it may be wise to restrict the discussion to a small number of carefully selected countries. A somewhat detailed study of Indian problems may be fruitful because a good deal of supplementary information would be available on the spot and also because the guest scientists would be able to study a good many things for themselves.

p.t.o.

9. I also agree that there should be some discussions on specific problems, but again I am a little apprehensive that the subject coverage proposed by you may be somewhat too wide and may lead merely to the repetition of platitudes. To be quite frank, I think the time has come to go a little deep into a few carefully selected topics. From your list my own choice would be (V) Scientific and Technological Manpower, and (VII) Energy. Much discussion has taken place and a good deal of literature is already available regarding most of the other topics. I think your (VIII) Automation and Capital Investment may be quite useful; and we must be quite useful; and we must, of course, have (IX) What the Scientists Can Do.

10. I should like to add Problems of Industrialization as a central theme because I am convinced this goes to the heart of the matter. That is, I feel that the basic issue is whether industrialization is to be recognized as the only real method of improving the level of living in underdeveloped countries (with, of course, a simultaneous improvement of agricultural production and fuller exploitation of other resources). I am aware opinion may be divided on this point but I think we should face the issue squarely.

With best wishes,

Yours sincerely,

Sd/- P. C. Mahalanobis

Professor Harrison Brown,
California Institute of Technology,
Pasadena,
California,
U.S.A.

Dr.

Copy of letter dated March 25, 1959 from Harrison Brown, California Institute of Technology, Pasadena, California to Professor P.C. Mahalanobis, Calcutta-35.

"Since the first of this year I have been so heavily loaded with obligations in Washington that I have had all too little time to think about specific suggestions for the Pugwash Conference in India. Indeed my obligations in Washington caused me to cancel my plans for visiting your country in February, at which time I had hoped to discuss some of these problems with you.

My travelling has now eased off considerably with the result that I am now able to devote some time to thought concerning what might be done at a meeting in your country.

Concerning the time of the meeting, I agree with you that it would perhaps be advisable to schedule it so that the participants would be able to participate also in the All India Science Congress in December. I would be inclined however to avoid making this meeting a part of the Science Congress.

Concerning the location, it would be very nice if we could hold the meeting in a quiet place away from the larger cities.

I have given some thought to the topics which might be discussed and have come up with the following suggestions for a program which might be called "Science and Technology in Relation to Problems of Economic Development".

I believe that the first two days of such a conference could well be devoted to orientation discussion. It is my general experience that most scientists are not particularly knowledgeable concerning these problems with the result that background material can be very important.

I. General Introductory Session (Full day)

1. Statement of the Problem in World Perspective (1 hour)
2. Case histories: The Industrial and Demographic Evolution of Specific Areas
 - a) The United Kingdom 45 min.
 - b) The U.S.A. 45 min.
 - c) The U.S.S.R. 45 min.
 - d) Japan 45 min. (4 and 1/2 hours)
 - e) China 45 min.
 - f) India 45 min.

II. Broad Problems of Future Development (Full day)

1. Discussion of the major differences between the problems of development today and those of 50 years ago.
2. Discussion of the Prospects, plans and problems of specific areas.
 - a) India
 - b) China
 - c) Pakistan
 - d) Palestine
 - e) United Arab Republic 30 min. each (4 1/2 hours)
 - f) Ceylon
 - g) Burma
 - h) Indonesia
 - i) Brazil

Detailed Discussions of Specific Problems

- III. Public Health, Demography and Fertility Control (Full day)
- IV. Science, Technology and Food Production (Full day)
- V. Economic Development in Relation to the Availability of Scientific and Technological Manpower (1/2 day)
- VI. Economic Development in Relation to the Availability of Mineral Resources (1/2 day)
- VII. Economic Development in Relation to the Availability of Energy (1/2 day)

(P.T.O.)

VIII. Technological Advance, Automation and Capital Investment (1/2 day)

IX. Summary Discussion of What the Scientist Can Do.

Recommendations.

(1 day)

I would be very much interested in hearing the status of your own thinking concerning the proposed conference.

With best wishes,"

My travelling has now ended and I am now able to devote some time to thought concerning what might be done at a meeting in your country.

Concerning the time of the meeting, I agree with you that it would perhaps be advisable to schedule it so that the participants would be able to participate in the All India Science Congress in Bombay. I would be inclined however to avoid making this meeting a part of the Science Congress.

Concerning the location, it would be very nice if we could hold the meeting in a quiet place away from the larger cities.

I have given some thought to the topics which might be discussed and I've come up with the following suggestions for a program which might be called "Science and Technology in Relation to Problems of Economic Development".

I believe that the first two days of a such a conference could well be devoted to orientation discussion. It is my general experience that most scientists are not particularly knowledgeable concerning these problems with the result that background material can be very important.

I. General Introduction Session (Full Day)

- 1. Statement of the problem in brief perspective (1 hour)
- 2. Case histories: The industrial and demographic evolution of

	45 min.	The United Kingdom
	45 min.	The U.S.A.
	45 min.	The U.S.S.R.
(1 and 1/2 hours)	45 min.	Japan
	45 min.	China
	45 min.	India

II. Global Problems of Economic Development (Full Day)

- 1. Discussion of the major differences between the problems of development today and those of 50 years ago.
- 2. Discussion of the prospects, plans and problems of specific areas.

	30 min. each (4 hours)	a) India
		b) China
		c) Pakistan
		d) Malaya
		e) United Arab Republic
		f) Ceylon
		g) Burma
		h) Indonesia
		i) Brazil

Detailed Discussion of Specific Problems

- III. Application, Research and Quality Control (Full Day)
- IV. Science, Technology and Food Production (Full Day)
- V. Economic Development in Relation to the Availability of Scientific and Technological Manpower (1 1/2 days)
- VI. Economic Development in Relation to the Availability of Financial Resources (1 1/2 days)
- VII. Economic Development in Relation to the Availability of Energy (1 1/2 days)