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# General Conference

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Sixth regular session

## AN INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS

### Note by the Director General

1. The Director General has received a letter from 53 of the participants (four discussion leaders and 49 fellows) in the Seminar on Theoretical Physics which was held at Trieste from 16 July to 25 August 1962. The text of this letter is reproduced in Annex I hereto for the information of the General Conference in connection with the report on an international centre for theoretical physics<sup>1/</sup> which the Board of Governors and the Director General have jointly submitted to the General Conference pursuant to Resolution GC(V)/RES/107, and particularly with the views of Governments on the subject reproduced in Annex I to that report and Addendum I thereto,
2. On 14 August 1962 the Director General sent a letter to four research centres at which theoretical physics is taught, inquiring whether they could accept scientists to whom the Agency had awarded fellowships for the study of this subject. The texts of this letter and of the replies received are reproduced in Annex II.

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<sup>1/</sup> GC(VI)/194.



ANNEX I

Text of a letter addressed to the Director General by 53  
participants in the Seminar on Theoretical Physics held  
at Trieste, Italy, from 16 July to 25 August 1962

"29 August 1962

"I am writing to you on behalf of those participants of the Seminar on Theoretical Physics (Trieste, 16 July to 25 August 1962) whose signatures are appended below.

"First, we would like to express our appreciation of the facilities placed at our disposal in Trieste. The lectures were of a high standard, and the field was covered in a comprehensive manner. Further, the meeting of physicists from all parts of the world afforded a unique opportunity for the discussion of ideas.

"However, while this important cross-fertilization of ideas has taken place during the six weeks of the Seminar, it has served also to underline the need for a centre where the meeting of people from diverse countries could take place on a more protracted basis, unhampered by geographical and political differences. Such a centre would serve three important functions:

- (1) The exchange of ideas between physicists who would otherwise rarely, if ever, meet. In order for important joint work to be done, contact for more than the six weeks of a summer seminar would be necessary.
- (2) The possibility for established physicists from newly developing countries to keep in contact with recent developments by visits to the centre.
- (3) The opportunity for young research physicists from these countries to come into contact with current research problems, this being virtually impossible in their own countries.

"For these reasons we feel most strongly that the setting-up of an International Centre for Theoretical Physics would be of immense value to physicists throughout the world, and accordingly we urge that everything possible be done to expedite its inauguration."



ANNEX II

(a) Text of an inquiry addressed by the Director General to four institutes at which theoretical physics is taught

"14 August 1962

"As you know the General Conference of the IAEA has adopted two resolutions at its 4th and 5th sessions regarding the possible establishment of a Training Centre on Theoretical Physics under the Agency's auspices 1/ .....

"As a first step towards promoting this activity the Agency has organized a Seminar on Theoretical Physics in Trieste from 16 July to 25 August 1962 upon the invitation of the Italian Government to act as a host country. I have been told that this Seminar, which is attended by more than 70 participants from 31 Member States, is considered to be of great value, mainly to the scientists from less industrialized countries. In fact, the number of demands for participation exceeded by far the available number of places.

"In the discussions of the Agency's Board of Governors and Scientific Advisory Committee it was thought that an alternative solution to the establishment of a new centre for theoretical physics would be an arrangement to have young scientists from the developing countries participate in the work of world-known establishments, such as the European Organization for Nuclear Research (CERN), the Institute for Theoretical Physics in Copenhagen, the Institute for Advanced Studies in Princeton and the Joint Institute for Nuclear Research in Dubna.

"In order to meet this demand I am therefore asking whether the co-operation of your Institute for the placement of fellows could be counted upon and especially how many fellows your Institute could accept annually from developing countries and for what length of time, provided the Agency finances the fellowships? For your information I may mention that it is considered necessary to place up to seven fellows a year in each Institute to study various branches of theoretical physics.

"It is only upon receipt of the answers from the various Institutes enumerated above that it would be possible for the Agency to propose a plan of activity in this field. I should therefore appreciate receiving an answer before 10 September 1962, as this would enable me to inform the General Conference at its 6th regular session of the various offers received.

" ....."

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1/ Resolutions GC(IV)/RES/76 and GC(V)/RES/107.

(b) Texts of replies received

1. From the Institute for Theoretical Physics,  
Copenhagen, Denmark

"7 September 1962

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"As you will know, this Institute has for a number of years received fellows with stipends from the IAEA. These fellows have come from countries in Asia, South America, Africa, as well as in Eastern Europe. They have in a very satisfactory manner taken part in research work in various areas of nuclear physics, and the Institute has greatly welcomed the opportunity to participate in this program of the Agency.

"As to the possibility of receiving an increased number of IAEA fellows from the developing countries, I have to mention to you that the number of physicists who each year apply for admission to the Institute already considerably exceeds our present capacity. At present about 35 physicists from abroad are working at the Institute, and with the present staff and research facilities we find it difficult to increase this number without loss of efficiency in the work and of intimacy in the personal relationship. Thus, we have, to our regret, not been able to provide facilities for all the fellows proposed in recent years by the IAEA although, so far, it has been possible to accept the majority of them.

"I would like to add that the Institute is at present receiving fellows from the developing countries with stipends from many different sources. In addition to the fellowships from the IAEA, stipends are provided through UNESCO, in certain cases by funds from the countries involved, but in most cases by funds which have been made available to the Institute by the Ford Foundation for this purpose.

"In view of the above considerations, this Institute would hardly be able to contribute essentially to the objectives envisaged in the fellowship programme outlined in your letter, although, of course, we would always endeavour to provide facilities for as many IAEA fellows as possible from all different countries.

"It is therefore my opinion, as expressed at the panel convened by the Agency in March 1961, that a new international center in theoretical physics is desirable, and would provide valuable new opportunities for scientific co-operation on a world-wide scale."

2. From the European Organization for Nuclear Research,  
Geneva, Switzerland

"5 September 1962

"I read, with much interest, in your letter of 14 August and its enclosed documents, the proposal it contains that, as an alternative to the establishment of a new centre for theoretical physics, certain existing organizations, such as CERN, should be invited to accept, at the expense of the Agency, a certain number of fellows. As you can imagine, this proposition has had our most careful consideration and I have discussed it with Professor Van Hove who is the Head of our Theoretical Study Division. However, and with the best will in the world, we do not feel that we shall be able to go as far as you suggest in your letter, namely to accept up to seven fellows each year from the Agency.

"Our difficulties are as follows:

"Experience has shown us that young fellows, particularly from countries in which physics is not very far advanced, need a considerable amount of supervision and training if they are to benefit from further studies. The staff of our Theoretical Study Division here, and these are the only people whom we can properly ask to spend a proportion of their time on teaching duties in theoretical physics, is extremely small and already has to deal with the twenty or thirty fellows and research associates who come here from the CERN Member States, and whose reception here is one of the benefits which the Member States get from CERN. Besides this the Theoretical Study Division staff has to play an active role, together with the senior fellows coming under different arrangements from countries where the study of physics is advanced, in the pushing forward of the frontiers of high-energy nuclear physics and in rather close co-operation with our experimental physicists. It would, therefore, I think, be unreasonable to ask them to undertake training, or even the effective supervision, of the sort of numbers which you mention in your letter and our Member States would, I think, have the right to complain if our own staff theoreticians were diverted too far from the duties which they owe to CERN in the first place.

"I am sure you will realize that all this turns, to a certain extent, upon the degree of previous training and achievement of the people who come here. There are, of course, young theoreticians, even from the less industrialized countries, whose native abilities are so high or who have received so adequate a training elsewhere that they can play a full and creative role in the work of a theoretical group such as that at CERN. But unfortunately, by the nature of things, the great majority will, although able enough men, require a thorough grounding, and I do not think it would be right for us to undertake this task, even at our own post-graduate or post-doctorate level for too many people from non-member states.

"I feel therefore that my answer to your question must be a reluctant but qualified 'no'. By this I mean that we should, from time to time, be happy to welcome here a theoretical physicist proposed by the IAEA, and who

had already acquired qualifications and experience which would enable him to play his full part in our work. We should in fact be delighted to co-operate with you in this way. But we should need to be able to satisfy ourselves that the man concerned did have the requisite qualifications and experience, and for this reason, and for elementary lack of space, I think it is extremely unlikely that we should be able to take anything like the seven fellows yearly which you mention in your letter. If such a proposition is of interest to you or to your General Conference, I should be most happy to discuss the matter with you further.

"There is another alternative which might interest you, particularly if the proposal in the form in which you have now circulated it finds elsewhere a similar response to ours. If the Agency were able to consider providing for, say, two teaching posts at CERN at the appropriate level, at the same time as the fellow stipends, the proposition might then form an attractive whole with our own training programme. There would be many points to be settled, for instance the choice of tutors, fellows and the relative responsibility of the two Organizations and the nature of any agreement between ourselves and you, and our Council would clearly have to approve the arrangements, but if the idea is of interest on your side, it is certainly worth exploring."

3. From the Joint Institute for Nuclear Research,  
Dubna, Union of Soviet Socialist Republics

"6 September 1962

"The Board of Directors of this Institute has examined your proposal regarding acceptance of seven Agency fellows from under-developed countries for training in the Institute's Theoretical Physics Laboratory.

"The Board considers that it would be possible to receive the Agency fellows in 1963, for a period of up to six months.

"However, under the Institute's regulations, this opinion must be confirmed by the Plenipotentiary Committee of representatives of the Institute's participating countries, which will be meeting in November this year. I believe that the Plenipotentiary Committee will endorse the Board's opinion."

4. From the Institute for Advanced Study,  
Princeton, United States of America

"27 August 1962

"Your good letter of August 14 arrived in my absence. I am glad to respond affirmatively to your question as to whether the Institute for Advanced Study would welcome advanced students in theoretical physics from developing countries.



"We have in the past always borne in mind that we could play a useful role in bringing qualified postdoctoral scientists to this center from more remote parts of the world of physics, Pakistan, Lebanon, Hongkong, Brazil, and many others. We would be very grateful to collaborate with your agency in continuing and extending this practice.

"By our tradition, the approval of membership in the Institute rests with the relevant faculty of the Institute. As I have said, we wish to be helpful to those who are most in need of a close connection with an active and advanced center of study. In addition we try to take into account whether a man's education has reached an adequate level, and whether his interests are such that this will be a suitable place for him (we have, for instance, no laboratories whatever).

"Thus we would be glad to receive nominations, recommendations, and information about any candidates who might reasonably come here. We are enclosing a copy of a very brief descriptive booklet about the Institute. I am sure that you know all that you need to about us, but it may be that this will be helpful to a member of your staff."

