



CONTENTS

Agenda item 15:

- Questions relating to science and technology
- (a) Report by the Secretary-General on the results of the United Nations Conference on Science and Technology for the Benefit of Less Developed Areas
- (b) Main trends of inquiry in the field of natural sciences, for dissemination of scientific knowledge and the application of such knowledge for peaceful ends
- (c) Organization and functioning of scientific abstracting services
- (d) International co-operation in the peaceful uses of outer space . . . . . 49

Corr.2 and Add.1); (b) Main trends of inquiry in the field of natural sciences, the dissemination of scientific knowledge and the application of such knowledge for peaceful ends (E/3765); (c) Organization and functioning of scientific abstracting services (E/3618); (d) International co-operation in the peaceful uses of outer space (E/3770, E/3794 and Corr.1)

1. The SECRETARY-GENERAL expressed the conviction that all members of the Council would wish the Development Decade to do more than lead to a cycle of debates, resolutions and reports. Anyone who understood the gravity of the issues posed by the widening gap between the rich and the poor nations would hope that the means could be found to meet the great challenge laid down by General Assembly resolution 1710 (XVI). It should be understood that the development of human resources, which was the true aim of technological advance, was also an essential condition for it. Once a new technological device was ready for adoption, capital could be applied in more useful forms, and training became even more valuable than before. Early programmes of capital and technical aid might be superseded, and national development plans and economic projections might need revision. It was true that most technological advances were relatively small, but while the cumulative effect of small improvements should be recognized, plans must be made for the revolutionary impact to be expected from some of the major breaks-through. Technology could be the most powerful force in the world for the achievement of higher living standards, and it was the task of the United Nations to harness it for that purpose.

2. One aspect of the United Nations Conference on the Application of Science and Technology for the Benefit of Less Developed Areas was the extremely solid and valuable support given from the beginning by the entire United Nations family.

3. The report on the Conference (E/3772 and Corr.2 and Add.1) showed the very wide range of inquiry which had been covered. Map-making, preferably by photogrammetry, had been stressed as a first step for the developing countries. The implications of rising population pressure had been debated; thus the prospect had been noted of arable land per head of population falling to roughly half an acre by the year 2000, as against 1.18 acres in 1959, and the need had been recognized for strenuous efforts to conserve water. Some attention had been given to the resources of the seas, and to demineralization to help relieve water shortages. Perhaps scientific knowledge would one day reach the point where it was possible to launch a vast project to develop the almost unlimited resources of the seas for the benefit of all mankind.

President: Mr. A. PATIÑO (Colombia)

Present:

Representatives of the following States: Argentina, Australia, Austria, Colombia, Czechoslovakia, El Salvador, Ethiopia, France, India, Italy, Japan, Jordan, Senegal, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Yugoslavia.

Observers for the following Member States: Algeria, Belgium, Canada, China, Greece, Hungary, Iraq, Ireland, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Pakistan, Poland, South Africa, Sweden, Ukrainian Soviet Socialist Republic, United Arab Republic.

Observers for the following non-member States: Federal Republic of Germany, Holy See, Switzerland.

Representatives of the following specialized agencies: International Labour Organisation, Food and Agriculture Organization of the United Nations, United Nations Educational, Scientific and Cultural Organization, International Civil Aviation Organization, International Bank for Reconstruction and Development, International Monetary Fund, World Health Organization, Universal Postal Union, International Telecommunication Union, World Meteorological Organization, Inter-Governmental Maritime Consultative Organization.

The representative of the International Atomic Energy Agency.

AGENDA ITEM 15

Questions relating to science and technology

- (a) Report by the Secretary-General on the results of the United Nations Conference on Science and Technology for the Benefit of Less Developed Areas (E/3772 and

4. Other questions which had been taken up were the challenge to devise processes and plants for the heavy chemical industry which would reduce the minimum size of economic operations below their current level in the advanced countries, and the somewhat contrasting situation in the iron and steel industry, where relatively small plants could already be built and operated economically and required merely the transfer of known technology. The main point was that the Conference had been intended to have a practical effect. Certain steps had already been taken to determine what the follow-up action should be. He had had consultations both at the government level and in ACC, and his views were summarized in part three of the report. They were in no sense final, but they indicated the direction in which a start might be made.

5. Three main points should be stressed. Firstly, it was necessary to build centres of scientific and technological strength in the less developed countries. Secondly, it was necessary to focus more resources in the advanced countries of science and technology for the benefit of the less developed countries. Thirdly, it was necessary to make a judicious assessment of priorities.

6. The term "centres of strength" comprised many different items which were all vital if science and technology were to take root in the less developed world. Science and technology could not be exported or pushed out from their habitat in the advanced countries; they had to be imported or pulled in by the developing countries themselves, when the most forward-looking and qualified people in those countries felt the need and were able to define it. Every nation required at least a minimum number of its own highly trained scientists to help to ensure its intellectual independence and dynamism. In addition, the developing countries needed to expand the number of their middle-level technicians very rapidly. Practical ways must therefore be found to accelerate education and training, with the aid of UNESCO, the ILO, the United Nations itself and all its agencies that were concerned with technology. Member States should also keep in mind the crucial question of incentives. Middle-level careers essential for national development were too often regarded as unrewarding.

7. Each developing country needed not only skilled manpower, but also institutions, such as research facilities. It also required a national science or research council to provide guidance and formulate policy, to ensure that the importance of promoting scientific advance was not overlooked when national plans were drawn up, and to reduce the risk that under such plans scarce resources might be allocated without foreseeable technological changes being taken into account. Research facilities could often be advantageously combined in a local university. It was to be hoped that the advanced countries would place such facilities increasingly at the disposal of the developing countries. It was, however, essential to set up more adequate and more numerous research institutions in the developing countries themselves. A link should be established between them and corresponding institutions in the advanced countries, with a continuous exchange of knowledge and of scientific staff. Some problems, such as those connected with diseases or with tropical plant life,

could be properly investigated only in the less developed countries themselves, but other problems could be studied in the advanced countries during the initial stages. Where that was done, pilot operations should be carried out close to the area where the results were to be applied, so as to ensure successful adaptation. The Special Fund had acquired useful experience in the establishment of research institutions and should serve as a main support for a broader attack on the problem, if adequate resources were to be forthcoming. Not all research institutions should necessarily be national ones; some might with advantage be established on a regional, or even an inter-regional basis. Such an arrangement would make it easier to economize skilled manpower and financial resources, would encourage wider use of the findings and would benefit small countries unable to proceed with research on their own. Regional and interregional research institutions should be linked with the regional economic commissions, either directly or through newly founded development planning institutes.

8. As regards the second main point, the cost of developing new technical methods and of preparing the people to receive them, in addition to the cost of the new equipment, would be large, but there was more than a question of money involved. The scientific community would have to become much more deeply involved in the whole development effort, both individually and through its scientific organizations. Many scientists had already left their ivory towers to engage in practical activities, but the institutional means through which they could serve the development of the less developed areas had not been perfected, and their actual involvement in such work was still rather marginal. Some of the best scientists and technologists were being associated with the work of the United Nations and its agencies as members of advisory committees and panels. That arrangement had proved very useful, and he would like to express his gratitude for the assistance rendered by the Scientific Advisory Committee in general and, more specifically, for the help given by the Scientific Advisory Panel in the organization of the Conference. However, still more had to be done on those lines.

9. To say that the United Nations and its agencies should be provided with some of the necessary additional resources was surely no radical doctrine. It would be entirely reasonable to channel larger resources through the Special Fund and EPTA. In addition, a larger portion of the budgets of some of the international organizations should be devoted to development, and the budgets themselves should be strengthened, so as to enable those organizations to play their part on a scale more consonant with the need. So far as the United Nations was concerned, it would be proper to enlarge the allocation for those of its activities which were most directly related to industrial and other technology. It was only because of the serious financial crisis besetting the Organization that he was not making any immediate proposals to that effect, except to suggest internal adjustments within present means.

10. One important function of the United Nations family should be its catalytic role. The scope for useful further

action should be kept under continuing and detailed review, but sometimes it would be possible to prompt others to take such action. The major contribution of resources should currently come from bilateral arrangements, including private action by foundations and industries, as well as public action. One instrument for that purpose was provided by bilateral aid programmes. Another might be a variety of other programmes not tied to assistance programmes in any formal sense. For example, a practice of devoting special attention to the technological problems of the developing countries, or of a particular developing country, might spread among the agricultural colleges and their associated research laboratories and experimental stations, among teachers' training colleges, public health organizations and other centres of technological knowledge and skill in the advanced countries. In addition, the research and developing programmes to which some Member Governments were devoting large financial resources, might be of help and might yield the answers to certain technical problems confronting the less developed countries. The concept of an accidental by-product benefit to civilians from advanced or space research, sometimes referred to as the spill-over effect, was already familiar. A deliberate effort might be made to seek similar by-product benefits which would help to accelerate development in the less developed countries.

11. To call assessment of priorities the third essential was not to suggest that the technological needs of the less developed countries were confined to any one sector or area. Technological improvement was co-extensive with the development process itself. That was a major reason why it would not seem practical to establish a new United Nations agency for science and technology. All the agencies had technological functions, and the best assurance of a vigorous, unified and consistent effort lay in intensifying their individual action, while, at the same time, perfecting co-operation through ACC. Steps had been taken to establish an ACC sub-committee on science and technology, to which reference was made in paragraph 40 of the ACC report to the Council and in paragraph 226 of his own report. But obviously, resources would be spread too thin, if no decisions were taken on priorities.

12. The Department of Economic and Social Affairs had started to review its varied work programmes from the angle of the application of science and technology. The most important item was undoubtedly the technological work directly related to industrialization and natural resources: water, energy and minerals, to which cartography and transport should be added. Needs might be met in part by a substantial acceleration of the programme for the establishment of technological institutes. The United Nations Centre for Industrial Development and the Resources and Transport Branch had also made some headway in assembling a body of engineering and industrial skills which could be made available on request in such areas as manufacturing, mining, power, roads, railways and water. It was planned to continue to develop a panel of engineers and related technical experts, both on the staff and in the auxiliary services of the United Nations. It might be possible, for example,

to regularize the establishment of panels of individuals prepared to serve from time to time on suitable assignments and also enter into agreements with institutions and firms, under which they would supply qualified personnel for such assignments on request.

13. In housing construction, too, new techniques to reduce costs were urgently needed. Community development work had an important part to play at the elementary level, as distinct from the university level. Another important item was training in public administration and development planning.

14. Lastly, with a view to following up the Conference energetically, an agreed special list might be drawn up of new inventions, adaptations or cost reductions, having a particularly large potential development effect either directly or through their ultimate repercussions. The automobile had clearly been an invention of that kind for the western world. Would a new kind of motor vehicle, tailored in price, durability and other specifications to what the developing countries could afford, qualify for a place on such a list? It was also conceivable that small units might be developed for generating electric power economically and safely in any village by utilizing energy from the sun or from some other source. Other items might be economical desalinization plants for areas short of fresh water, the mass application of certain new teaching aids and techniques employing radio and television, or some particular piece of technical research in the field of physical or mental health. The further study of relative needs and of the feasibility of achieving a break-through might yield some answers, and experts from the less developed countries should play an active part in advising on both needs and technical specifications. The final stages of research and field testing would in each case be carried out in one or more of the less developed countries, with the help of a regional or inter-regional research institution, so as to ensure that the product was acceptable in the area in which it was to be used. Thus, transfer and adaptation would be an integral part of the technical solution itself. In addition to bilateral governmental and United Nations assistance, support could be obtained from foundations and other private institutions in order to bring special priority research tasks to a successful conclusion, and he would lend his full support to any effort in that direction.

15. In conclusion, the Council might wish to consider certain suggestions for action to be taken during the current session in conjunction with the Conference on the Application of Science and Technology. Firstly, it would be useful if the Council's discussion were to indicate how much importance the Council itself attached to scientific and technological work and to define its place among the services that the United Nations and related agencies could and should render during the Development Decade. Secondly, the Council's guidance would be appreciated with regard to any of the specific programme suggestions he had advanced, particularly the research institutions in the less developed areas and the recruitment of stand-by auxiliaries to carry out missions in industrial and other appropriate technical fields. Thirdly, the Council's help was needed in finding the best ways of

securing for the United Nations and its agencies such additional resources for scientific and technological work as the Council might think necessary. Fourthly, his own report (E/3772 and Corr. 2, para 236) and the report of ACC (E/3765, para 41) had suggested that the Council might wish to establish an advisory committee on science and technology. Such a committee, if the Council should decide to establish it, might clearly play an important part. For example, if the concept of a list of particularly important research items were to be approved, the committee might draw it up. Also, if the Council considered that regional and inter-regional institutions, as well as national ones, should be established and strengthened in the less developed areas, a scheme should be drawn up for an effective and reasonably complete network and a phased plan prepared for bringing them into operation. Arrangements for examining such matters and formulating recommendations could no doubt be worked out by the Council's proposed committee in conjunction with the United Nations Scientific Advisory Committee and the principal scientific and technological committees of the specialized and related agencies.

16. The Conference on the Application of Science and Technology had focused attention on the sort of practical approach by which the whole effort of the Development Decade could be accelerated. Much would depend on the decisions to be taken at the current session by the Council.

17. Mr. THOMAS (United Kingdom) said that the Conference on the Application of Science and Technology already had a substantial achievement to its credit. It had afforded an opportunity for scientists from nations in different stages of development to meet and to discuss questions of common interest. It had given a stimulus to governments and scientists in the advanced as well as the less developed areas, and, through the services of the United Nations Secretariat, it would make available an impressive volume of scientific and technical papers. The United Kingdom had played its part in originating the project for the Conference and had sent some hundred and fifty experts to take part in it.

18. He agreed with the view that the momentum of United Nations activity on development should be maintained by positive follow-up action and that such action must be promoted in fulfilment of Article 55 of the Charter. His government intended to play a full part in securing continuing and constructive activity by the United Nations in pursuit of those objectives. At the same time, the precise areas in which increased United Nations activity was needed had not yet been defined. There was uncertainty about the activities which should be undertaken but were omitted from existing programmes, and also about the organizational changes, if any, which were required. That point was recognized in the Secretary-General's report. His government accepted an additional responsibility for the United Nations and considered that the Council and other organs should approach and study the long-term problem of developing appropriate activities to meet the demands of the situation. But it would be unrealistic for the Council to attempt to solve at the current session the whole very complex

range of problems arising from the theme of the Conference. What he hoped would be possible was that agreement would be reached on the general framework within which the Council's responsibilities in the new field should develop.

19. The Secretary-General's report displayed certain qualities of clarity, directness and balance, which indicated the personal concern he had consistently shown for development. The United Kingdom delegation would also carefully consider the many outstanding proposals made by the Secretary-General in his statement. His government was broadly in agreement with the Secretary-General's approach and recommendations for future action. It accepted the view that the advanced countries should give high priority to aspects of science and technology which were relevant to the needs of the developing countries. In the United Kingdom, the Tropical Products Institute and the Medical Research Council in Tropical Medicine, for example, might prove useful in helping the developing countries. His government would also give consideration to other points in the Secretary-General's report; it would look into the enlargement of the budgets of the specialized agencies and of the resources available through the Special Fund and EPTA. The Council would not expect delegations to enter into precise commitments at the current stage.

20. His government also accepted the Secretary-General's recommendation that the Council should establish special machinery to keep all aspects of the subject under review and that an advisory body set up for that purpose should include scientists of high calibre with a knowledge of the United Nations. The members of the Scientific Advisory Committee were, of course, eminently well qualified for membership in the proposed new body, which should be kept sufficiently small for its members to co-operate in a personal and professional manner. His delegation would have more precise proposals to put forward in the Co-ordination Committee regarding the terms of reference of the body.

21. His government's ready acceptance of the recommendations for further action in support of the Conference's purposes entitled him perhaps to ask that the developing countries should give earnest attention to action along the lines suggested by the Secretary-General. In its long and intimate connexion with those countries the United Kingdom had realized the importance and also the difficulty of trying to build up within each country a sufficient group of trained people who spoke the international language of science and could advise governments and influence their public opinion on the application of science and technology. The proposals by the Secretary-General for an increase of the United Nations effort on education were therefore particularly welcome. In the long run, the key to the problem was to be found in education. His delegation agreed with the Secretary-General that the UNESCO science programme should be redirected and expanded; thus, for instance, its Department of Natural Sciences might be reorganized.

22. Lastly, his delegation wholeheartedly endorsed the proposals put forward in connexion with the catalytic role of the United Nations (E/3772 and Corr. 2, paras.

227-229). The United Nations family was uniquely qualified for enlisting science and technology more fully in the service of the developing countries, and his delegation would be glad to study any detailed proposals for relevant action. He hoped that the Council would endorse the proposals in the Secretary-General's report for future action (*ibid*, part three), including the setting-up of an expert advisory body. If the Council accepted science and technology as a primary activity of the United Nations, its current session would be remembered as a turning point in the development of the Organization's economic and social activity.

23. Mr. SEN, Director-General, Food and Agriculture Organization, said that the theme of the Conference on the Application of Science and Technology was basic to the work of FAO. The fact that of more than eighteen hundred scientific papers contributed to the Conference over five hundred related to agriculture showed the deep concern of the scientific world with the problems of hunger and malnutrition.

24. From the beginning, FAO had been anxious that the Conference and the World Food Congress should complement each other. The Conference had concentrated on the technical aspects of the problem while the Congress had dealt mainly with the field aspects. By placing the conclusions of the Conference against a wider background the Congress had carried the purpose of the Conference a step further. The Congress had been attended by over thirteen hundred persons from one hundred and four countries. They had participated in their individual capacities which had contributed substantially to the success of the Congress.

25. The world supply of food was appreciably above the pre-war level, but nearly all the gains had been made in the industrialized countries. In the less developed regions, *per caput* production was no greater than before the war. To reach the standard of an average diet of 2400 calories per person per day, it was estimated that by the year 2000 something like a fourfold increase would be needed in the supply of food in Asia and the Far East, scarcely less in Latin America, a threefold increase in the Near East, and a two-to-threefold increase in Africa. The question that posed the greatest challenge to science and technology was: could the average acre be made to produce three or four times as much by the turn of the century?

26. Current knowledge of science and technology was enough to enable the developing countries to achieve far-reaching progress in their techniques of food production. However, the tremendous advances made in scientific agriculture were largely confined to countries in the temperate zone. The primary task was to transfer the techniques of scientific agriculture, with necessary adaptations, to the developing countries, most of which were in the tropics.

27. The idea of establishing a single international agency to assume responsibility for the application of science and technology was clearly unrealistic. Agriculture, for example, was not one science; it covered a complex of fields. Within each of those fields several sciences needed to make their contributions. He was glad to see that his

own view, expressed during his address to the Conference on the Application of Science and Technology, that the United Nations family provided a firm and creative basis on which to build, was embodied in the Secretary-General's proposals.

28. No doubt the lines of work now covered by FAO could be greatly expanded if more funds were available. But even if they were, there was still the problem of finding technically qualified personnel. Several European countries were already taking steps to make their scientists and technicians more readily available to countries in need. Courses in the adaptation of university curricula to facilitate the education and training of men and women from developing countries was another aspect of the matter to which they were giving attention. But all those measures were still exploratory, unco-ordinated and lacking in depth and breadth.

29. Within FAO the use of outside scientific advice was now confined to somewhat narrow limits. What was clearly needed was a broader use of scientific advice to review and appraise the progress being made in each major field. In addition to scientific panels for each such field, there might also be a central scientific panel for the overall responsibility of the organization, composed of two representatives from each field, one from a developing country and the other from a developed country, to advise the Director-General.

30. The best way of centralizing the collective responsibility of the United Nations seemed to be to establish a United Nations scientific advisory committee to which two representatives, one from a developing country and the other from a developed country, from each of the central scientific panels of the different United Nations agencies would be sent. The scientific advisory committee could keep under review the scientific work of all the agencies within the United Nations family and advise the Council through ACC on the progress made.

31. The setting-up of such panels and of the advisory committee would, of course, involve additional expenditure which must be met either by correspondingly increasing budgets in the United Nations agencies or by calling upon the Special Fund. In the latter case some special relationship would have to be worked out between the management of the Special Fund and ACC.

32. Mr. BINGHAM (United States of America) said it was doubtful whether a precise evaluation could yet be made of the achievements of the Conference on the Application of Science and Technology. But certain benefits were already discernible. Firstly, the Conference had brought scientists, technologists, economists and policy-makers of the developed countries into direct contact with their counterparts from the developing countries. The contacts thus established, many for the first time, must be carefully preserved.

33. Secondly, the papers presented and discussed at the Conference had created an invaluable reference library. Continuing efforts should be made by the United Nations, the specialized agencies, national governments and non-governmental organizations to ensure that the documen-

tation prepared for the Conference, as well as the report, were given the widest possible dissemination in the developing areas.

34. Thirdly, the Conference had made a start towards establishing ways and means for a general assessment of the contributions, both actual and potential, that detailed applications of science and technology could make to the acceleration of the development process. There were clear indications that new scientific breaks-through could have an enormous impact in the developing countries. Of equal, and perhaps even greater, importance was the need to disseminate existing scientific and technological information. While the need was obvious, the solution of the problem would not be easy. Age-old patterns of living would yield only stubbornly to innovations.

35. Fourthly, the Conference had made it clear that there must be a more significant participation of the scientific community in the whole development process. In many countries the degree of such participation was still marginal. Equally important, governments, international organizations and particularly national and regional institutions in the developed countries must do their utmost to associate those familiar with scientific and technological progress with their development programmes.

36. Fifthly, the Conference had stimulated extensive self-examination and self-appraisal. In particular, the specialized agencies had been reviewing their respective programmes to ascertain where they could make more effective use of science and technology, whether certain activities were out of balance with others, where the gaps lay, and how they could best co-operate with one another. Governments including his own had been asking themselves the same questions. Under the vigorous leadership of the Secretary-General, the entire range of the United Nations system had been examined critically in order to lay a firm, practical and comprehensive foundation for future use.

37. Finally, the Conference had raised a number of questions and revealed confusion on certain fundamental points, but that had in itself constituted a clarifying process.

38. Undeniably, the Conference had been a milestone on the road of international scientific co-operation. But its real success could be assured only by follow-up action. The United States intended to pursue vigorously a policy of full and active co-operation with the developing countries in science and technology. In doing so, it would be more concerned with action than with organizational machinery. After a thorough and searching analysis of the problem, his delegation felt bound to disagree with those who advocated the establishment of a new specialized agency for science and technology. While it was natural, whenever a new programme was being initiated or whenever an established programme was being re-directed, to urge the establishment of a new body, only too often it was forgotten that such a step might entail duplication, delay and even waste. His government shared the widely held view that no one specialized agency or other United Nations body could claim

unique competence in the application of science and technology for the benefit of mankind. Nor could any new organization do so. Almost all the agencies of the United Nations system were involved to some degree in that endeavour. A new agency would either have to absorb them all, duplicate their endeavours or devote itself to science and technology in a manner detached from practical development programmes. None of those alternatives was either feasible or desirable.

39. The basic need was for co-operative and co-ordinated action by the United Nations system as a whole in the application of science and technology. The Secretary-General, who had already demonstrated his profound comprehension of the urgency and complexity of the challenge and his determination to take vigorous action, was by definition in Article 97 of the Charter, the chief administrative officer of the Organization. The ACC had been the Council's major instrument for co-ordination for over fifteen years. The mechanism was therefore available. The Council should use it to accelerate co-operative and co-ordinated action by the United Nations system as a whole in the application of science and technology. Acting through ACC, the Council should review the activities of all parts of the United Nations system designed to facilitate the transfer and application of science in developing areas; search for gaps and imbalances in those activities; recommend measures for the establishment and development of co-ordinated over-all development programmes; and urge all United Nations bodies involved in development programmes to maintain and strengthen, within their respective purviews, the channels of communication between scientists, technologists and policy-makers of the developed countries and their counterparts in the less developed countries.

40. However, if it was to provide the incentives required to ensure the optimum application of science and technology, the Council must jealously preserve its role as an executive policy-making body. It should not allow itself to become diverted by the operational details, which should be the concern of ACC. Fortunately, ACC had already put itself in a position to perform those functions for the Council, having decided to establish a sub-committee on science and technology. The various agencies and ACC itself should make use of *ad hoc* panels to deal with specific questions. Their findings would be reviewed by ACC and its sub-committee thus assuring thorough consideration by all concerned in the formulation of policy.

41. The personnel of the sub-committee would be essentially of the high-level category suggested by the Secretary-General in paragraph 236 of his report. Although the Secretary-General's suggestion related to the possibility of establishing an advisory committee of the Council, the United States delegation believed that high-calibre personnel with an intimate knowledge of the activities of the United Nations agencies concerned could best be found in the sub-committee of ACC. Consequently, his delegation seriously wondered whether it would in fact be necessary to establish a committee of the Council, particularly since there were already various Council committees concerned with closely related subjects.

42. With respect to immediate action, the Secretary-General urged that advanced countries should give higher priority to scientific advances that came first in terms of human need. His delegation agreed that the areas mentioned by the Secretary-General earlier in the meeting were of high priority but did not consider that any material advance would be made by the establishment of special new institutions. For example, the research carried out by the United States Government on desalinization would be of immense benefit to many other countries of the world, but it was doubtful whether a new research institution could be endowed with comparable resources.

43. Similarly, various existing research institutions and facilities were well equipped to deal with such high priority problems as the development of small atomic reactors and motor vehicles required by the developing countries. The United Nations family could play an essential role in emphasizing particular aspects of those problems that were of interest to the developed countries, but the best results would be obtained by using existing facilities, particularly where very large resources were required. Another area of great interest was the utilization of the resources of the seas. There again major research should be conducted by governments and non-governmental institutions encouraged by United Nations bodies.

44. The important role of the United Nations was therefore to promote action on the part of others rather than to attempt to do most of the work itself. Although, currently, the major contribution came through bilateral arrangements between the developed and less developed countries, the United States had traditionally placed great stress on co-operative action through programmes of the United Nations and of national institutions. At the same time, many non-governmental institutions were playing a major role in science and technology. Furthermore, as the Secretary-General observed in paragraph 222 of his report, direct private investment characteristically helped to introduce more advanced technology in less developed countries where it was welcome. Future catalytic action by the United Nations family could greatly increase the contribution of those institutions for the benefit of the developing countries.

45. As in so many other areas of development the developing countries themselves must assume the major role. They must absorb science judiciously into their way of life and not merely attempt to use the end product of a scientific process carried out elsewhere. They must place greater emphasis on the training of their own scientific personnel at all levels, and professionals in science and technology should have rewards commensurate with their means.

46. Scientists from developing countries had repeatedly stressed the need for national and regional scientific and technological research and training institutions, an endeavour which the United States continued to support wholeheartedly. The Special Fund would certainly have an increasingly important role to play in that connexion. The establishment of home-based science and technology would not decrease the need for importing technical know-how from the advanced countries; quite the contrary. A much greater effort must therefore be made to

disseminate scientific and technological information. Equally important was the need to disseminate it at the country level to those who needed it and could use it. Although that must be the primary responsibility of the developing countries themselves, many governments and private institutions, including those of the United States, were ready to help.

47. Mr. NEHRU (India) said that the significance of the Conference on the Application of Science and Technology in the context of the Development Decade could not be over-emphasized. Although such large conferences generally tended to generate lengthy debate without commensurate results, that could not be said of that Conference. As its President had stated in his closing address, the Conference had achieved the purpose for which it had been convened. That purpose, it should be added, was only to set up a launching pad, as it were, from which the United Nations could send into orbit the twin cosmonauts of science and technology to conquer the ills that afflicted the developing countries. The Council was therefore confronted with the important question of what follow-up action it should recommend. Obviously, if the results of the Conference were to be restricted to the publication of its conclusions, then it would have been in vain. It was the responsibility of the United Nations, and particularly of its specialized agencies, to ensure that the developing nations derived from science and technology the practical benefits essential for the successful implementation of their development plans.

48. For the achievement of that formidable task a number of interesting suggestions had been made both at the Conference itself and at the meetings convened in New York in April 1963 by the Secretary-General to consider possible follow-up action. They included the establishment of regional research centres, clearing houses for discussion of scientific information, the organization of expert committees, and the establishment of a United Nations pool of scientists. All those suggestions would have to be carefully examined and the Council would doubtless be able to do so through its Co-ordination Committee.

49. Although the proposal to establish a permanent United Nations agency for science and technology was not without merit, it would involve considerable expense, and other possibilities should first be considered. Experience had shown that even the administrative and other non-technical staff tended to multiply rapidly in the specialized agencies. It was equally important to avoid wasteful duplication; the possibilities of utilizing the existing agencies should be developed to the fullest extent. His delegation agreed that UNESCO must play a leading role, although a number of other agencies, including IAEA, had major responsibilities in the field in question. His delegation welcomed, in particular, the decision of UNESCO to create a new post of Assistant Director-General to supervise the international development of science and its application to economic development. The capacities of the other specialized agencies must be augmented if they were to measure up to the task confronting them. As the Secretary-General had pointed out in paragraph 228 of his report, that would require

massive financial resources. Unfortunately, there was still considerable resistance to any expansion of the ordinary budgets of the specialized agencies. At the same time, the resources available to the Special Fund and EPTA still fell far short of their targets.

50. The existing services of the United Nations itself in industry and natural resources should also be amplified. It had been suggested that that might be achieved in part by providing a body of engineering skills which could be made available on request in such areas as manufacturing, mining, power, roads, railways and water. His delegation welcomed that suggestion and hoped that such a pool would form the nucleus of a United Nations centre for science and technology which could deal with those activities not covered by any specialized agency. Such a centre might be placed under the general supervision of a commissioner, similar to the Commissioner for Industrial Development, who could also serve as a direct link with the heads of the agencies concerned.

51. His delegation welcomed the Secretary-General's recommendation that the Council might establish an advisory committee on science and technology to report to it periodically through ACC. In May, ACC had decided to set up a sub-committee on science and technology which would be available, when desired, to meet jointly with the advisory committee. That was a very practical suggestion, for the international scientists, economists and administrators who would be members of the advisory committee should remain in close touch with the heads of the specialized agencies concerned.

52. In his message to the Conference the President of India had stated that no United Nations Conference had had greater importance for the happiness and well-being of millions throughout the world. It was up to the Council to see that the aspirations of the Conference were fulfilled.

The meeting rose at 1 p.m.