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Chairman: Mr. Eduard MEZINCESCU (Romania).

*In the absence of the Chairman, Mr. Farhadi
(Afghanistan), Vice-Chairman, took the Chair.*

AGENDA ITEM 83

**Main trends of inquiry in the natural sciences, dissemination
of scientific knowledge and application of such knowledge
for peaceful ends (A/4461*, A/C.3/L.854) (continued)**

1. Mr. KUZNETSOV (Union of Soviet Socialist Republics) said that in reading the report which was before the Committee (E/3362 and Corr.1 and Add.1), one could not fail to be impressed both by the gigantic achievements of the human mind in all branches of science and technology and by the magnitude of the work which remained to be done to achieve true international co-operation in that field.

2. Recalling the discoveries made by his country in recent years, he mentioned that, since 1957, it had launched three artificial satellites which had brought about spectacular advances in the study of the cosmos. Three Soviet rockets had also supplied valuable information concerning the sun and the moon. The last of those rockets had made it possible to prepare a complete map of the hidden face of the moon. The Soviet Union was continuing its research with a view to sending a man into space. Its second space vehicle had returned to earth, in sound condition, at the point intended. The third, which carried some animals, was still in orbit. His country had also made important discoveries in other fields, particularly in that of nuclear physics. Since 1955, for instance, it had an atomic ice-breaker, the Lenin.

3. A large staff of approximately 310,000 persons, including 104,500 doctors and graduates in science, was employed by the State and was working to develop science and technology in the USSR which had at present 3,548 scientific institutions, including 1,608 research institutes. Each year the universities trained 350,000 specialists and the technical institutions 480,000. The State attached particular importance to the training of qualified personnel and also sought to co-ordinate research in order to avoid

duplication. Its information institutes facilitated the exchange of information between the various branches of science and technology and between the institutions, undertakings and individuals dealing with those matters. Such exchanges were simpler in a country with a planned economy than in a capitalist country where monopolies concealed the discoveries they made in order to derive financial benefit from them.

4. Being very much ahead in all scientific fields, his country sought to ensure that mankind as a whole benefited from the results it had achieved. Its scientists participated in many international meetings where they discussed with scientists from other countries the conclusions to be drawn from the data obtained. It also assisted the industrially backward countries in drawing up projects and in training personnel.

5. All other countries, as well as his own, were at present endeavouring to develop science and technology, progress in which was essential if the standard of living of mankind was to be raised. In that connexion, he referred to achievements in the field of nuclear physics which could lead to an unlimited increase in energy for production. If the problem of thermo-nuclear fusion was solved, the earth's energy resources would be sufficient to meet the needs of all countries for thousands of millions of years.

6. In order to solve that problem and to ensure a real expansion of all sciences, it was essential that all countries should co-operate closely and work together for peaceful ends, and not for the purpose of strengthening aggressive military blocs. All types of co-operation were useful—exhibitions, conferences, discussion groups, meetings between governmental bodies, between non-governmental organizations and between individuals, bilateral agreements, bilateral scientific research projects, international research projects, exchanges between scientific institutions and specialists in various fields. As an example, he mentioned the Agreement on cultural, educational and technical exchanges, which his country and the United States of America had signed at Moscow in 1958, and the projects undertaken on the occasion of the International Geophysical Year and the International Health and Medical Research Year. He also referred to the exchanges which had taken place between the University and Observatory of Tashkent in the Uzbek Soviet Socialist Republic and some 120 centres and institutions in other countries. Finally, he recalled the two important United Nations international conferences on the peaceful uses of atomic energy, which had been held at Geneva in 1955 and 1958.

7. The Charter itself enjoined the United Nations to play a major role in organizing scientific, technical and cultural exchanges, subjects on which the General Assembly had adopted several resolutions, particularly resolutions 1164 (XII) and 1260 (XIII). Unfortunately, the United Nations and the special-

* Note by the Secretary-General transmitting document E/3362 and Corr.1 and Add.1.

ized agencies did not attach much importance to the matter. The Economic and Social Council had considered it in a purely formal manner and had taken no decisions concerning the two documents prepared by UNESCO in implementation of General Assembly resolution 1260 (XIII)—General review of the development and co-ordination of the economic, social and human rights programmes and activities of the United Nations and the specialized agencies as a whole: international relations and exchanges in the fields of education, science and culture (E/3352 and Corr.1 and Add.1), and the survey of the 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/3362 and Corr.1 and Add.1). The latter survey, which was the only one before the Committee, contained proposals which were excellent *per se*, but of a preliminary nature only, as they would have to be considered by other bodies before they could take the form of specific measures which could be implemented by the United Nations, the specialized agencies and the regional organizations. Thus far, the United Nations had merely prepared studies which, although they were important, would never lead to any progress in that field. It was now necessary to instruct the Council to study the whole problem and to develop specific measures to increase international co-operation in the scientific, cultural and technical fields. The various agencies which would have to implement those measures would have to pay particular attention to the need: (1) to improve such co-operation; (2) to make use of scientific and technical achievements for peaceful ends, i.e. for the welfare of humanity and not for its destruction; (3) to extend those achievements to the less developed countries, particularly to those which had recently cast off the yoke of colonialism; and (4) to train scientific and technical personnel, particularly in those countries. Consideration might also be given to the establishment, under United Nations auspices, of international information centres to deal with the exchange of scientific and technical information, which was as necessary for the development of the under-developed countries as for the advancement of technology in all countries.

8. In conclusion, he emphasized that the survey before the Committee was an example of the unilateral way in which the United Nations approached all questions. In particular, the fact that the People's Republic of China was not a member of the United Nations was no reason for communicating only with the experts in Taiwan and for ignoring completely the substantial achievements of continental China. He also regretted to note that the experts mentioned in annex 6 to the survey were mostly experts from the United States, France and the United Kingdom. That was no doubt due to the fact that UNESCO and the other specialized agencies were not interested in the socialist countries and sought to achieve international co-operation in the scientific field without them—something that was now impossible. Finally, he requested the Secretariat to have a Russian translation made of the survey which the Committee was considering.

9. Mr. BAROODY (Saudi Arabia) congratulated the Australian delegation on having introduced resolution 1260 (XIII), which, because of its singleness of purpose and the remarkable clarity of the presentation by Lord Casey, had been approved by the Third Committee without opposition (845th meeting). As a result

of that proposal, the Committee had before it one of the most thorough surveys which the United Nations had ever made on the subject of scientific research.

10. Referring to the eight-Power draft resolution on main trends of inquiry in the natural sciences, dissemination of scientific knowledge and application of such knowledge for peaceful ends (A/C.3/L.854), he said that the members of delegations did not approach the subject under discussion as experts in the natural sciences, and that the Third Committee did not attempt to pose as a scientific academy. While the survey prepared by Mr. Pierre Auger on behalf of UNESCO (E/3362 and Corr.1 and Add.1) was valuable and praiseworthy and showed how constructive the activities of the United Nations and the specialized agencies could be when the problems concerned were not political in nature, it was not the Committee's task to consider a reference work; the international community had entrusted another function to the Committee, one which the title of the draft resolution made clear. That function was not to encourage science as such but to promote the application of scientific knowledge for peaceful ends. Science was independent of morality; its only aim was to widen human knowledge, and the fact that research in a given field seemed unlikely to bring practical results did not mean that such research should not be done: if scientific research had been governed by utilitarian considerations, penicillin would never have been used in medicine, since the remarkable properties of that drug had been discovered by chance during some research work on mould. Yet, although scientists were not concerned about the practical results of their labours, the natural sciences should none the less promote the social and economic development of mankind. The United Nations had already approved various resolutions, inadequate to be sure, relating to the possible misuse of scientific discoveries by politicians. In that connexion, he recalled that some ten years ago his delegation, wishing to prevent any repetition of bombardments of the kind that had befallen certain Asian cities, had, together with some other delegations, considered the submission of a draft resolution condemning the use of nuclear energy for destructive ends. Unfortunately, the delegations concerned were compelled to abandon any action of that sort because their Governments had been subjected to external pressures. Today, however, it was necessary to take a constructive step and to affirm that science played a vital role with respect to the welfare of mankind. Moreover, the beginning of the eight-Power draft resolution seemed rather abrupt: its sponsors were apparently concerned only with the formal aspect of the matter. When it had before it an excellent proposal by the Australian delegation, the General Assembly had sent it to the Economic and Social Council for consideration; now that it had received a survey prepared in consultation with a Special Advisory Committee, it should not merely take note of the survey and neglect to make any comment on the substance of the matter. If it failed to comment, it would be acting as a mere relay station. For all those reasons, he suggested that the eight Powers should insert the following paragraph at the beginning of the preamble to their draft resolution:

"Considering the important role which the natural sciences in general continue to play in promoting the economic and social development of mankind,"

11. He wished to draw the Committee's attention to the fact that the words "for peaceful ends" were not included in his text, for he felt that the inclusion of those words in the title was already adequate. Furthermore, his delegation had deemed it advisable to use the word "mankind" in order to stress the universal character of science and to emphasize that, unlike art and music, scientific discoveries, whether attributable to the Arabs, ancient Greece or the countries of Western Europe, were not conditioned by their geographical origin.

12. He also believed that it would be advisable, in the draft resolution, to request the Economic and Social Council to take into account the views expressed by members of the Third Committee on the matter. Some delegations, such as the delegation of the Soviet Union, apparently had some comments to make. The Economic and Social Council would not be bound to follow such suggestions, but, in his view, should at least be given the opportunity to do so. He therefore proposed the insertion in the operative part of the draft resolution of a new paragraph, which might be placed at the beginning, if the Secretariat so advised, and which would read as follows: "Takes note of the discussion (comments) on this item in the Third Committee during the current session (the fifteenth session)".

13. Lastly, he noted that only eight countries, three of which were Western European nations, were sponsoring the draft resolution before the Committee. Those countries undoubtedly had many research centres and consequently made a great contribution to the welfare of mankind, but it was unfortunate that no Asiatic or Eastern European country was included among the sponsors. He explained that Saudi Arabia had not joined the sponsors of the draft resolution, because it had made only slight progress in the field of scientific research; it therefore had had to act with modesty, although it was prepared to support earnestly the work being done in the matter. But countries such as the Soviet Union, whose scientific achievements were known to all, or India, which also was carrying out important research, might perhaps agree to co-sponsor the draft resolution. The text should be universal and should reflect the initiative of the countries of the East as well as those of the West, so that joint efforts might be made in a field where there were no political problems.

14. In conclusion, he stated that he might speak again both as to the substance of the matter and as to points which might be raised by other delegations, and he expressed the hope that, once the text had been perfected, it would receive the unanimous approval of the Third Committee.

15. The CHAIRMAN said that the Secretariat suggested that the paragraph proposed by the Saudi Arabian representative might be combined with operative paragraph 3, which would then read:

"Requests the Economic and Social Council to report further on this matter to the General Assembly at its sixteenth session, taking into account the discussion of (comments on) this item in the Third Committee during the current (fifteenth) session, as well as the views ...".

16. Mr. AKRAWI (United Nations Educational, Scientific and Cultural Organization) said that the survey before the Committee (E/3362 and Corr.1 and Add.1),

for which UNESCO had been asked by the Administrative Committee on Co-ordination to act as a centralizing body, was in every sense a co-operative enterprise. Professor Pierre Auger, a former director of the UNESCO Department of Natural Sciences, had been appointed as Special Consultant by the Secretary-General after consultation with UNESCO. An advisory committee made up of representatives of the United Nations, the ILO, FAO, UNESCO, WHO, ICAO, WMO and IAEA had been formed to help the special consultant in planning the survey. All the organizations concerned had also provided materials on subjects in their special fields for inclusion in the report. The Secretary-General and the Director-General of UNESCO had requested all States Members of the United Nations and members of the specialized agencies and of IAEA to send relevant material. Twenty-three States, seven inter-governmental organizations and nineteen non-governmental organizations had supplied material. In addition, 255 specialists from thirty countries had been consulted in their individual capacities by the United Nations, UNESCO, the other specialized agencies and IAEA. Sixty-one of the experts consulted had submitted detailed reports to UNESCO. The draft report had been submitted on completion to a panel of five eminent scientists from Australia, India, the Union of Soviet Socialist Republics, the United Kingdom and the United States of America, selected jointly by the Secretary-General and the Director-General of UNESCO. The survey was thus based on the combined efforts not only of the United Nations, the specialized agencies and Member States, but also of non-governmental scientific organizations and a large number of individual scientists.

17. Turning to the contents of the survey, he said that after an introduction which gave a historical insight into the rate at which scientific and technological research throughout the world was gaining speed and becoming diversified and reviewed the main currents of present-day research and the motives inspiring them, the larger part of the survey was given to the main trends of scientific research and the application of scientific knowledge for peaceful purposes. The report also dealt with the problem of organizing scientific research at the national level and problems of national scientific policy. In that connexion, the report dealt with problems of scientific personnel, from both the quantitative and qualitative point of view, the institutional structures of scientific research at the national level, the problem of scientific equipment, the dissemination of scientific information, and the problem of translating the results of pure scientific research into industrial techniques. Finally, the survey gave eleven general recommendations and thirty-one special recommendations in the various fields of science and technology.

18. The Director-General of UNESCO had proposed various measures to implement the recommendations made in the survey. Thus, when he had drawn up the draft programme and budget of the organization for the years 1961 and 1962, which was at present under consideration by the General Conference, he had taken fully into account the recommendations made in the survey in drafting the part of the programme dealing with the exact and the natural sciences. For eight of the eleven general recommendations, he had either recommended positive measures and included

them in the programme with the necessary financial provision or, when more detailed study was called for, he was taking steps to initiate such study in co-operation, when necessary, with other specialized agencies. Eleven out of the thirty-one special recommendations came within the competence of UNESCO and were also taken into account in the agency's programme. In his comments, which could be found in an addendum to the survey (E/3362/Add.1), the Director-General of UNESCO had given an indication of how he intended to implement the various general recommendations and certain specific recommendations. Mr. Akrawi cited as examples the measures which would be taken to implement general recommendations 1, 3, 7 and 11.

19. In pursuance of Economic and Social Council resolution 804 B (XXX), the Secretary-General of the United Nations and the Director-General of UNESCO had agreed to communicate the survey to the Governments of Member States and to all national and international scientific bodies which had been consulted when the survey was being prepared and to request their comments thereon. The Director-General had also submitted the report with his comments to the General Conference of UNESCO, which in turn would communicate its views. In the light of all the information gathered, the Special Consultant would revise the survey before its publication in final form.

20. The survey had not only influenced the short-term scientific programme of UNESCO for the next two years, but it had also helped the Director-General and was currently helping the General Conference of UNESCO in defining the general orientation of the Natural Science Programme of UNESCO for the period 1960-1970. In that connexion, the Programme Commission had recently approved a series of recommendations which in the next decade would give priority to activities in three main fields, namely: (1) the co-ordination of scientific activities on both the national and the international level; (2) the exploration of the earth's resources and the study of the scientific problems involved in harnessing them;

and (3) the application of science and technology to the industrialization of the developing countries. With regard to the co-ordination of scientific activities, it was proposed to stress collaboration among scientific organizations, the standardization of scientific abstracting services and of units of scientific measurement, and the improvement of the translation of scientific articles. As to the exploration of the earth's resources, a number of specific suggestions had been made for a more intensive study of the means of investigating natural resources in such fields as geophysics, geochemistry and aerial surveying. Particular attention would be given to geological and seismological research following the recent earthquakes which had damaged large areas in Latin America and in the Mediterranean basin. In the next two years, UNESCO would send out survey missions to the world's seismic zones. It also intended to form in 1963 a committee of experts to report on all problems concerned with pollution, whether by air, water or soil, which were too extensive to be dealt with on a national scale. Lastly, with regard to the industrialization of the developing countries, UNESCO intended to concentrate its efforts on the training of scientific and technical personnel and on a study of methods of speeding up the industrialization of the under-developed regions.

21. Accordingly, the survey of the main trends of scientific research was not intended simply for publication and dissemination. It had already had a marked influence on UNESCO's Natural Science Programme and it was hoped that it would become a major reference work for Member States, scientific organizations and individual scientists in the shaping of their future scientific research programmes.

22. Mr. ARVESEN (Norway) proposed that the time limit for the submission of draft resolutions and amendments should be fixed for Tuesday, 6 December, at noon.

It was so decided.

The meeting rose at 5.40 p.m.