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CONTENTS

Chairman: Mr. C. W. A. SCHURMANN (Netherlands).

In the absence of the Chairman, Mr. Csatorday (Hungary), Vice-Chairman, took the Chair.

AGENDA ITEM 28

International co-operation in the peaceful uses of outer space (continued):
(a) Report of the Committee on the Peaceful Uses of Outer Space (A/5482, A/5449 and Add.1);
(b) Report of the Economic and Social Council (chapter VII, section IV) (A/5503)

1. Mr. FORTHOMME (Belgium) said his delegation was gratified at the advances made during the previous year in the peaceful exploration and use of outer space. In the report on the work of the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space at its second session, held in April and May 1963 (A/5549, paras. 19-20), it was stated that no agreement had been reached as to the character of the document in which the general principles governing outer space activities would be embodied, and that the participating delegations had limited themselves to recommending the continuance of contacts and exchanges of views. Today, only a few months after the publication of that relatively pessimistic report, a draft declaration (A/5549/Add.1, para. 6) had been unanimously referred by the Committee to the General Assembly, and the statements already made in the First Committee made it clear that the General Assembly would give that document its unanimous approval. The Belgian representative in the Legal Sub-Committee had repeatedly urged that discussion of the form of a document to summarize the law of outer space, important though that question was, should not be allowed to obscure the overriding need for speedy agreement on the substance of a body of rules governing outer space activities. The draft declaration before the First Committee would help to make possible new progress toward achieving that goal.

2. The General Assembly, in its resolution 1721 A (XVI), had commended two general principles to States for their guidance in the exploration and use of outer space; today the Assembly was being called upon to declare solemnly that States should be guided in that field by a set of principles whose scope was both wider and more precisely defined than that of the two principles contained in resolution 1721 A (XVI).

3. There were, to be sure, some omissions in the draft declaration and there was a lack of precision on specific points. For example, while the principle of international liability for outer space activities was mentioned in paragraphs 5 and 8, nothing specific was said about the exact nature of that liability or the respective obligations incurred by international organizations or States engaging jointly in the exploration and use of outer space. Similarly, some balance must be ensured between the protection of the States launching objects into space and the interests of countries called upon to return such objects which landed in their territory. Moreover, the draft declaration failed to give precise definitions of certain terms and concepts, such as the term "registry" used in paragraph 7. Those shortcomings would not prevent his delegation from giving its full support to the draft declaration. If the General Assembly approved the draft declaration, however, it would thereby be assuming the obligation to continue the work and ensure that the general principles contained therein were elaborated so that they could be put into practical effect through specific legal procedures.

4. In April 1963 the Belgian representative in the Legal Sub-Committee had submitted a working paper on the unification of certain rules governing liability for damage caused by space vehicles (A/5549, annex III, H). A number of other proposals had been drafted on that problem and on the question of assistance to and return of space vehicles and personnel. The Belgian delegation hoped that those and other proposals would be studied in the near future by the competent bodies; in that connexion, it had noted with great interest the Soviet representative's statement that his Government was prepared to agree to the appointment of groups of experts to draft new international instruments. The Belgian Government was fully aware of the practical problems involved in the activities planned by international organizations such as ESRO and ELDO; it held that precise proposals on liability and similar questions should be dealt with as speedily as possible by the competent experts, and it was prepared to co-operate actively in the discharge of that task.

5. The Belgian delegation had examined, jointly with the Netherlands and Luxembourg delegations, the recommendations in paragraphs 8 to 18 of the report of the Committee on the Peaceful Uses of Outer Space (A/5549), based on the report of its Scientific and Technical Sub-Committee and the reports prepared by ITU (E/3770) and WMO (E/3794 and Corr.1), and was satisfied with those recommendations. The measures concerning the exchange of information on national space activities referred to in paragraph 9 of the Committee's report were certainly worthy of

adoption. With regard to paragraphs 10 to 13 of the report, the Belgian, Netherlands and Luxembourg delegations wished to stress that much work was being done by existing non-governmental organizations, and the Committee should try to prevent any duplication; moreover, the measures envisaged in paragraphs 11 to 13 should not result in the publication of excessively long reports of dubious practical importance. Paragraph 16, relating to international sounding rocket launching facilities, deserved special attention, although it had to be borne in mind that the effective establishment and operation of such installations would entail considerable technological and financial effort. The views expressed in paragraph 18 on the subject of the potentially harmful effects of space experiments were also unexceptionable; while the seriousness of such effects had sometimes been exaggerated, it was gratifying that eminent scientists and specialists in COSPAR were working to ensure the safety of humanity.

6. The importance of the proposed global satellite communications system required no demonstration. His delegation considered that once such a system was functioning all the States Members of the United Nations should be able to participate in its operation and use and to acquire rights of ownership in it, and that all countries possessing the necessary experience and means should be able to take part in the advance discussions relating to the structure and the very concept of the system. In that connexion, it had noted with interest the remarks made by the representative of the United States.

7. Mr. HASEGANU (Romania), after reviewing the successes achieved during the previous year by the Soviet Union and the United States of America in the field of space exploration, said the fact that scientists in many countries were conducting research on outer space problems showed the great interest which Governments were now taking in that new branch of science. In the Romanian People's Republic, scientists had discovered a new and highly important method of determining the geocentric co-ordinates of satellites by means of the non-simultaneous observation of satellites, and had also made new discoveries regarding the structure of the ionosphere. Romania was also to undertake further research, within the framework of the International Year of the Quiet Sun, on problems relating to geodesy, meteorology, solar activity, terrestrial magnetism and technical currents, and the ionosphere.

8. A number of international agreements had been concluded during the year between States or between scientific institutes of different States regarding problems involved in the exploration or use of outer space. Of particular importance were the Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water, signed at Moscow on 5 August 1963, and the first memorandum of understanding to implement the bilateral agreement of 8 June 1962 between the Academy of Sciences of the USSR and the United States National Aeronautics and Space Administration (see A/5482) providing for the establishment of a co-ordinated programme of meteorological satellites, the study of the earth's magnetic field by means of artificial satellites, and the conduct of a joint experiment with a telecommunications satellite.

9. The Romanian delegation had studied closely the report of the Committee on the Peaceful Uses of Outer Space and those of WMO and ITU. The work done by the Committee during the previous year was most satisfactory, a common point of view having been arrived at on many important problems in the field of space co-operation. Many of the recommendations proposed by the Scientific and Technical Sub-Committee and approved by the Committee were valuable in that they broadened the sphere of international co-operation in scientific research on outer space. Of special importance were the recommendations for the encouragement of international programmes, in particular the recommendation that a World Weather Watch should be established, using data supplied by both meteorological satellites and conventional meteorological observations. The Romanian delegation also endorsed the Committee's recommendations concerning the potentially harmful effects of space experiments, the exchange of information on national space activities and the preparation of a list of sources of scientific and technical publications concerned with space and space-related areas. It also welcomed the establishment at Thumba, India, of the first international sounding rocket launching site, which was to be placed under United Nations sponsorship.

10. The two specialized agencies concerned with outer space, WMO and ITU, had also had a fruitful year. The Romanian delegation welcomed WMO's expanded programme for future meteorological research and the series of valuable measures adopted by the Fourth World Meteorological Congress, including the establishment of an Advisory Committee of eminent scientists to advise on general problems of space research. It was also particularly interested in the space studies made by the International Radio Consultative Committee of ITU and in the ITU proposals for educational programmes in the field of telecommunications technology. It endorsed the Economic and Social Council's expression of appreciation of the activities carried out by the two specialized agencies contained in its resolution 980 C (XXXVI), and supported the request in that resolution that the two agencies should include in their annual reports to the Council a section presenting information on the development of their activities relating to the peaceful uses of outer space.

11. In the legal field, the draft declaration of legal principles governing the activities of States in the exploration and use of outer space (A/5549/Add.1, para. 6) was of particular importance. The Romanian delegation endorsed the draft declaration, which, in addition to including the principles laid down in General Assembly resolution 1721 A (XVI), established a number of new legal principles. It particularly welcomed the principles that States should conduct their activities in outer space with due regard for the corresponding interests of other States (paragraph 6 of the draft declaration), that States and international organizations bore international responsibility for their activities in outer space (paragraph 5), that States retained jurisdiction and control over objects launched into outer space (paragraph 7), and that States should regard astronauts as envoys of mankind in outer space and should render to them all possible assistance in the event of accident or emergency landing on their territories (paragraph 9). It also welcomed the inclusion in the draft declaration of a preambular paragraph recalling General Assembly resolution 110 (II), which condemned propaganda designed or likely to provoke or encourage any threat to the peace or breach of the peace, though it would have preferred to see that paragraph included in the operative section.

12. While the Romanian delegation shared the view of a number of delegations that some of the new principles in the draft declaration could have been drafted in more specific terms, it realized that the present text represented a compromise between divergent views, and hoped that the sincere application of the existing principles would make up for any omissions. It also shared the view that new legal principles should be added to the declaration as the space activities of States developed. The Romanian delegation had frequently expressed its opinion that an international agreement of a binding nature would have been more satisfactory than a draft declaration, and it hoped that the present principles, and any new ones which proved necessary, would eventually find a place in such an agreement.

13. In the coming year the Committee on the Peaceful Uses of Outer Space and its Legal Sub-Committee would have to begin the work of drafting international agreements on assistance to and rescue of astronauts and spaceships and on liability for space vehicle accidents. By establishing legal rules in that field, such agreements would help to promote international co-operation in the political field and to encourage the progressive development of international law and its codification, as laid down in Article 13 of the United Nations Charter.

14. The Romanian delegation was convinced that as legal instruments relating to outer space were developed and implemented, multilateral co-operation among States in that field would increase. As a member of the Committee on the Peaceful Uses of Outer Space, it would do its utmost to further the regulation of the important problems involved in the space activities of States.

15. Mr. MATSUI (Japan), after paying tribute to the memory of the late President of the United States, Mr. John F. Kennedy, whose contributions to peace had been numerous, said that in taking over the Presidency, Mr. Lyndon B. Johnson had pledged himself to continue his predecessor's policies. A similar continuity of endeavour was vital to the United Nations, which should redouble its efforts to reserve outer space for peaceful purposes. The Japanese delegation would co-operate whole-heartedly towards that end, for it considered that the exploration and use of outer space could and should be a universal enterprise of all countries, great and small.

16. The United Nations had made substantial progress during the previous year towards ensuring the exploration and use of outer space for peaceful purposes.

17. The partial test ban treaty had been a step in the right direction, and the understanding reached between the United States and the Soviet Union to refrain from stationing nuclear weapons in outer space had been unanimously endorsed by the General Assembly in its resolution 1884 (XVIII). Similarly, the understanding reached between the United States and the Soviet Union regarding the legal principles which should govern the space activities of States had been incorporated in the additional report of the Committee on the Peaceful Uses of Outer Space in the form of a draft declaration (A/5549/Add.1, para. 6), which both countries had agreed to respect as reflecting international law accepted by the United Nations.

18. All those measures represented gratifying steps forward. However, it was to be hoped that further progress would be made soon; in particular, the agreement to refrain from stationing weapons of mass destruction in space should be embodied in a binding international instrument, including provisions for verification, as soon as possible, and the draft declaration of legal principles should be developed at the earliest possible moment. The draft declaration was not the last word; it should be regarded as a starting-point for further work of expansion and elaboration. It was to be hoped that the day would soon come when the world community would declare unequivocally its intention to explore and use outer space exclusively for peaceful purposes.

19. It was also to be hoped that the principles set forth in the draft declaration would be clarified and drafted in more precise terms. For example, the principle contained in the third sentence of paragraph 7 seemed at first sight to be simple and clear enough; but closer study would undoubtedly reveal considerable ambiguity and bring out many problems of interpretation and application. In particular, the provision seemed to favour launching States unduly, since non-launching States would be obliged to return to the launching State objects which fell on their territory, without having been given any advance information about the type of vehicle involved. Such a provision was one-sided and legally untenable: the obligation to return space vehicles should be conditional upon an equivalent obligation on the part of launching States to provide adequate advance information—for example, by notifying non-launching States either directly or through United Nations registration. That view was endorsed by the resolution on the legal régime of outer space adopted on 11 September 1963 by the Institute of International Law, paragraph 9 of which referred to the return of space objects the launching of which had been officially notified. True, it was provided in paragraph 7 of the draft declaration that the launching State should furnish identifying data "upon request"; but a non-launching State would not be in a position to know which State had launched the vehicle found in its territory, and accordingly where to address its request, unless adequate information was supplied by the launching State. A similar problem arose in connexion with operative paragraph 8: to which country or organization to present a claim when damage had been caused by an unknown object. He wondered whether the aggrieved State would have to wait until the responsible country or organization made itself known, or until some hint was available from the information filed scantily and tardily with the United Nations. Since many such questions arose, it was to be hoped that the principles set forth in the draft declaration would be improved, both in their present form and on their subsequent elaboration into international agreements. At an earlier meeting, the USSR representative had advocated the establishment of groups of experts to prepare draft agreements on practical legal questions; the Japanese delegation would be glad to serve on such groups if they were created. He hoped that such action, which constituted the logical next step forward, would be taken at an early date.

20. Japan attached great importance to measures which would help to remove the obstacles to the peaceful and co-operative development of outer space for the benefit not of a favoured few but of all mankind. In that field, international co-operation was invaluable, and it need not be confined only to the great Powers, for other countries, no matter how small and poor, could also make a positive contribution to the common effort.

21. In that connexion, the modest efforts of Japan, which had no pretence whatever to being a space Power, might serve to illustrate the possibilities that existed for co-operation with other countries and international agencies. The first Japanese sounding rocket programme had been initiated in 1955 in connexion with the preparations for the International Geophysical Year, and the first launching had taken place in 1957. Since then, the Japanese space programme had developed apace. The Japanese Science and Technology Agency, which carried out research on rocket engines, electronic equipment and satellite control systems, had successfully tested a meteorological observation rocket in August 1963, and during the same year Japanese scientists had conducted ionospheric observations with rockets, the latest of which carried an instrument payload of 180 kilogrammes to height of over 500 kilometres and was to be used for observations of the Van Allen radiation belt. Launching tests had also begun at a new site, in Kyushu. Japan intended to participate actively in the International Year of the Quiet Sun and the World Magnetic Survey, in the context of the joint international studies undertaken in collaboration with COSPAR. In the field of space telecommunications, Japan was co-operating with the United States in the experimental reception of communications from United States relay satellites, and the Japanese Ministry of Postal Services had set up appropriate facilities jointly with a private company. Successful trans-Pacific television transmission tests via satellite had been conducted late in November 1963. He hoped that the progress his country was making in those various fields would prove useful to other countries as well.

22. The fact that he had dwelt on other matters did not mean that Japan was unaware of the splendid contribution that other Governments and the various international agencies concerned—not to mention the Committee on the Peaceful Uses of Outer Space—were making to the endeavours of the United Nations to promote peaceful international co-operation in the use of outer space. As an expression of its approval of those activities, his delegation, together with a number of other members of the Committee on the Peaceful Uses of Outer Space, intended to submit a draft resolution [1] in which all those subjects would be covered.

23. He wished once again to pledge the sincere co-operation of the Japanese Government and people with all Member States and international agencies, especially the United Nations, in the exploration and use of outer space for peaceful purposes.

24. Mr. Víctor Andrés BELAUNDE (Peru) said that his delegation would vote for the draft declaration of legal principles governing the activities of States in the exploration and use of outer space, which represented an important advance. He regretted, however, that the draft declaration did not reflect the growing demand for an international order based on international law. It spoke of consultation, which was a valuable instrument that had won wide acceptance in Latin America; however, it made no reference to the need for an international authority with the power to act when consultation failed to achieve the desired end. He was not suggesting that an international authority should take the form of a super-State; there were already a number of international bodies which dealt with specific matters without in any way impairing national sovereignty. However, the idea of an international authority was inseparable from that of an international community, for some sort of co-ordination, at the very least, was needed in order to promote co-operation and prevent disputes.

25. In pointing out that the draft declaration required objects falling from space to be returned to the launching State but made no provision for the security of the State in which such objects fell, the Japanese representative had underscored one of the difficulties resulting from the absence of an international authority and had drawn attention to the fact that the idea of exclusive State sovereignty still prevailed in international thinking. The crucial point was whether international co-operation was to advance towards the concept of an international community based on law or was to remain guided by the notion that the world was made up of sovereign States which could, whenever their interests dictated, evade their responsibilities to the international community.

26. He wished in particular to remind the young nations of Asia, Oceania, Africa and America that the question of outer space was more than merely a matter of curiosity and scientific enthusiasm. The way it was dealt with would determine whether there was to be an international community, whether there was to be a true international authority endowed with certain specific powers, and whether the United Nations was to be anything more than a debating society. He recalled, in that connexion, Ortega y Gasset's observation that Europe had existed as a spiritual and cultural unit long before the emergence of the nation-States which now claimed to derive their sovereignty from a kind of divine right.

27. Although there were at present only two States which could carry on large-scale space activities, many other countries could conduct highly important research and exploration of the kind described by the Japanese representative. Peru and other Latin American countries could benefit greatly from weather control measures, while the advances made in communications and in the utilization of nuclear energy could not but stir admiration. However, there must be a co-ordinating authority to ensure that all such activities were conducted on a co-operative basis and for the benefit of all mankind.

28. The banning of nuclear weapon tests in outer space and—through concurrent unilateral declarations, at all events—of the placing in orbit of weapons of mass destruction represented progress. However, he agreed with the Japanese representative that it was essential to conclude a treaty providing for verification and inspection by an international authority. The advances already made must therefore be a stimulus to further progress rather than an occasion for undue rejoicing. He hoped that, in continuing its work, the Committee on the Peaceful Uses of Outer Space would take account of the Japanese representative's criticism of paragraph 7 of the draft declaration and of the observations which he himself had just made.

29. Mr. HAKIM (Lebanon), referring to the reports of the Committee on the Peaceful Uses of Outer Space (A/5549 and Add.1), expressed satisfaction at the progress made by the Committee during the previous year in carrying out the tasks assigned to it by the General Assembly in its resolutions 1721 (XVI) and 1802 (XVII). He was pleased to note that international co-operation was under way in the fields of scientific research, weather observation and space communica-

[1] Subsequently circulated as document A/C.1/L.332.

tions, and hoped that the Soviet Union and the United States, which had accomplished so much in the exploration of space, would co-operate fruitfully in that endeavour.

30. The draft declaration of legal principles governing the activities of States in the exploration and use of outer space was an important advance in the formulation of space law. However, he agreed with the Indian and United Arab Republic representatives that an important shortcoming of the draft declaration lay in its failure to enunciate a general principle relating to the peaceful uses of outer space. It was clearly impossible for the exploration and use of outer space to be carried on for the benefit of mankind, as provided in paragraph 1 of the draft declaration, if States were permitted to use space for other than peaceful purposes. Although the principle that space must be used exclusively for peaceful purposes was related to the question of disarmament, it was not necessarily dependent on the achievement of general and complete disarmament. It should be noted that there were as yet no armaments in space which would have to be destroyed, so that the prohibition of military activities in space would in no way affect the military balance of power.

31. Since the General Assembly had unanimously adopted resolution 1884 (XVIII), calling upon all States to refrain from placing weapons of mass destruction in space, the two space Powers should surely be able to agree even more easily to bar less destructive weapons from space. He noted, in that connexion, that their present military activities were far less expensive than any which they might carry on in space. Since the rapid advance of space science and technology might soon make it possible to engage in military activities in space, a legal principle designed to prevent such a development should be formulated without delay; specific procedures for its application could be worked out gradually at a later time. The enunciation of a principle limiting space to peaceful uses would enable the energies and resources of States to be used for the benefit of mankind rather than for wasteful and destructive purposes.

32. In spite of the observations he had just made, his delegation would vote for the draft declaration and hoped that it would be adopted unanimously.

33. Mr. NOURI (Iraq) said that since the adoption of General Assembly resolution 1802 (XVII), increasing co-operation in the peaceful uses of outer space had been reflected in the signing of the partial test ban treaty, the adoption of General Assembly resolution 1884 (XVIII) on the denuclearization of outer space, and the agreement reached between the Academy of Sciences of the USSR and the United States National Aeronautics and Space Administration to implement the bilateral space agreement of 8 June 1962 (see A/5482). His delegation welcomed the increasing interest in space displayed by a number of countries with limited technical and financial means; those countries would unquestionably benefit from the agreement providing for the establishment of international sounding rocket facilities under United Nations sponsorship. His delegation also wished to express its appreciation of the efforts made by UNESCO, WHO, ITU and COSPAR to promote international co-operation in space research and of the steps taken to establish a World Weather Watch.

34. His delegation strongly supported the recommendations in the report of the Committee on the Peaceful Uses of Outer Space (A/5549) concerning the future development of international co-operation in space research and shared the view expressed in that Committee that training and technical assistance should be provided mainly through an international organization. He also hoped that the idea of establishing a space science training institute would be given favourable consideration at the next session of the Committee.

35. The draft declaration of legal principles governing the activities of States in the exploration and use of outer space represented a compromise agreed upon after two years of debate, and he shared the view expressed by many delegations in the Committee on the Peaceful Uses of Outer Space that the principles contained in the draft declaration were not precisely formulated and did not cover all aspects of space law. The principles therefore required clarification, and the declaration should in due course be formalized in an agreement. His delegation nevertheless regarded the draft declaration as a first step towards the codification of space law and hoped that it would be adopted unanimously.

36. Mr. LEKIC (Yugoslavia) said that the Committee on the Peaceful Uses of Outer Space had for the first time been able to report concrete success in the legal as well as in the scientific and technical field. His delegation welcomed the draft declaration of legal principles governing the activities of States in the exploration and use of outer space, which represented a gratifying advance in international understanding and a substantial success for the international community. It marked the initial stage in the development of a law of outer space, the need for which was only too evident in the present era of rapid space conquest. It would also make it easier to adopt the other instruments that would be needed to regulate in greater detail the legal and political side of the various sectors of man's space activities, and would help to further scientific and technical progress in that field.

37. As other delegations had already pointed out, however, the principles contained in the draft declaration were by no means exhaustive. Indeed, they represented only a beginning, and further principles, as well as explicit legal regulations, would be required as space activities developed. Moreover, since principles, by their very nature, could not provide specific solutions, the principles in the draft declaration would have to be embodied in agreements as quickly as possible in order to give them legal effect.

38. It was essential that outer space should be used for peaceful purposes only and that that should be, in fact, the supreme law; for that reason the Yugoslav delegation welcomed the recent statements made by the great Powers and the General Assembly's adoption of resolution 1884 (XVIII) calling upon all States to refrain from placing nuclear weapons in outer space. However, much more still remained to be done in that connexion. The peaceful use of outer space should contribute to the general goal of the peaceful settlement of existing problems and the preservation of world peace. A corresponding confirmation of that supreme law, therefore, would have been a stimulus.

39. The Scientific and Technical Sub-Committee of the Committee on the Peaceful Uses of Outer Space was to be congratulated on the results it had achieved, which had helped to make possible the agreement on principles. Considering the progress achieved by its Legal Sub-Committee also, it could be said that the

Committee was moving forward and contributing to international co-operation and the welfare of all mankind. In that connexion, the part played on that Committee by the smaller and non-aligned Powers in bringing the great Powers closer together and in promoting specific agreements was of particular interest.

40. The results so far attained in United Nations efforts to ensure the peaceful use of outer space provided a sound beginning and a basis for further agreement regarding both the regulation of the exploration and use of outer space and international scientific and technical co-operation in that field.

41. Mr. GAGLIOTTI (United Nations Educational, Scientific and Cultural Organization) said that he would confine his remarks to actions which had been taken by UNESCO since the seventeenth session of the General Assembly and were not reflected in the reports on outer space currently before the First Committee. Pursuant to General Assembly resolution 1721 C (XVI), a UNESCO expert, Mr. D. F. Martyn of Australia, who was also Chairman of the Scientific and Technical Sub-Committee of the Committee on the Peaceful Uses of Outer Space, had participated in two meetings of the WMO Working Group on the Research Aspects of Meteorological Satellites, held at Geneva in November 1962 and February 1963; and a UNESCO staff member had attended two meetings of the WMO Panel of Experts on Artificial Satellites. Pursuant to part D of the same resolution and to a related resolution adopted by the UNESCO General Conference at its twelfth session, UNESCO, at the request of ITU, had prepared for the Extraordinary Administrative Radio Conference held at Geneva in October and November 1963 a report on the use of space telecommunication to promote the free flow of information and rapid progress in education. The report, published under the title Space Communication and the Mass Media,[2/] had been circulated to the members of UNESCO with a covering letter pointing out that it sought to present a concensus of expert views on some controversial technical matters which were necessarily still under study.

42. In response to General Assembly resolution 1802 (XVII), UNESCO had entered into a contract with the international committee responsible for the planning and co-ordination of the International Year of the Quiet Sun; in 1963 it had contributed a sum of $10,000—about 30 per cent of the committee's total annual budget—towards the cost of the committee's meetings and publications, and it was proposed that a similar sum should be made available from UNESCO's regular programme in 1964 and subsequent years. In addition, discussions had been held between the secretariat of UNESCO and the World Magnetic Survey Board set up by the International Union of Geodesy and Geophysics to plan and co-ordinate work on the World Magnetic Survey. In December 1964, UNESCO was to organize, in consultation with the Committee for the International Year of the Quiet Sun and the World Magnetic Survey Board, a training course in geomagnetic and ionospheric observation techniques for observatory staff from African countries. It was proposed that UNESCO should offer financial assistance to the World Magnetic Survey Board for a pilot mission of experts to intercalibrate the geomagnetic instruments used in African observatories and complete the training of observatory staff, and possibly for the preparation and publication of an information bulletin for the guidance of observatory staff in all countries. UNESCO had given and was to give financial assistance to COSPAR for the Fourth and Fifth International Space Science Symposia and for the preparation and publication of a world list of satellite tracking stations and a manual on the reception of real time telemetry signals from satellites.

43. The report of the Committee on the Peaceful Uses of Outer Space referred in its recommendation on the exchange of information to "a list of the sources of available bibliographies and abstracting services" (A/5549, para. 13) and in its recommendation on education and training to "reviews of information on facilities for education and training in basic subjects related to the peaceful uses of outer space in universities and other places of learning" (ibid., para. 17). In view of the very general wording of those two recommendations, UNESCO believed that it was essential to delimit the scientific subject areas to be covered, and would enter into consultation with COSPAR regarding that delimitation.

44. The Preliminary Draft Programme and Budget of UNESCO for 1965—1966 included proposals for the following: an operational programme of assistance in international research projects, including the International Year of the Quiet Sun; continued co-operation with WMO in the scientific aspects of the use of meteorological satellites and with COSPAR and other international scientific unions in the examination of problems, including biological problems, connected with the scientific exploration of outer space, and in the conservation and study of material of extra-terrestrial origin, particularly meteorites; and lastly, contractual arrangements with the Federation of Astronomical and Geophysical Services for joint projects, especially in developing new methods and procedures in the collection and analysis of astronomical data.

45. The projects just outlined were necessarily of modest dimensions, since UNESCO did not have at its disposal the vast funds required for outer space activities. However, by providing small but essential sums to meet the particular interests of member States in connexion with activities such as the International Year of the Quiet Sun, the World Magnetic Survey and the training of qualified personnel, particularly in developing areas, UNESCO was making its contribution toward meeting the needs indicated in General Assembly and General Conference resolutions, within the framework of its over-all programmes in the field of science.

46. Miss JEFFREYS (International Atomic Energy Agency) said that the activities of IAEA relating to outer space were largely concerned with the future rather than the immediate present. It was contemplated that the Agency's specialized services would be able to help in the exploration and use of outer space; conversely, research in outer space would perhaps increase man's knowledge of certain conditions which also applied in earthbound installations. Isotopic generators were already being used in satellites to produce small amounts of electricity for the transmission of radio signals. Nuclear propulsion of space vehicles themselves was being investigated; in that connexion, apart from the problems of reactor design and choice of fuels and construction materials, IAEA was interested in problems of shielding against radiation; the development of shielding materials could have practical importance in other uses of atomic energy.

2/ UNESCO, Reports and Papers on Mass Communication, No. 41.

47. By the terms of its Statute, the Agency was concerned with and engaged in a number of measures to prevent personal injury or property damage resulting from the use of nuclear energy. Before nuclear operations in outer space became general, international problems of environmental contamination due to normal or abnormal operation would need to be studied. The Agency was also interested in the effects of the space environment on biological systems, and particularly of course on man, and in the effects of cosmic and solar ionizing radiation on materials used in the construction of space vehicles. For those reasons IAEA had co-operated with UNESCO, COSPAR and the International Astronautical Federation in exchanging information on radiation hazards. IAEA had taken the initiative, together with other international bodies concerned, in drafting conventions on the liability of operators of nuclear-propelled ships and on civil liability for nuclear damage caused by land-based nuclear installations. Both those conventions introduced new principles which might be relevant to similar instruments relating to civil liability resulting from the operation of space vehicles, a problem which was being studied by the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space.

48. For the reasons indicated, the Agency had followed and was following the work of the Committee on the Peaceful Uses of Outer Space and its Sub-Committees, and would be ready when the time came to assist and co-operate with them in any way possible.

The meeting rose at 1.5 p.m.

Litho in U.N. 77101—November 1964—2,125