



UNITED NATIONS
GENERAL
ASSEMBLY



PROVISIONAL (37)
A/AC.105/FV.49
13 September 1967
ENGLISH

COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE 170
PROVISIONAL VERBATIM RECORD OF THE FORTY-NINTH MEETING

Held at Headquarters, New York,
on Wednesday, 13 September 1967, at 3 p.m.

Chairman: Mr. WALDHEIM (Austria)

1. Adoption of the agenda
2. Opening statement by the Chairman
3. Report of the Committee to the General Assembly
 - (a) Report of the Scientific and Technical Sub-Committee (A/AC.105/39)
 - (b) Report of the Legal Sub-Committee (A/AC.105/37)
 - (c) Report of the Working Group on Navigation Services Satellite Systems (A/AC.105/38)

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ADOPTION OF THE AGENDA

The agenda was adopted.

The CHAIRMAN: Before we take up the first item of our agenda, I shall, in accordance with our usual practice, invite the representatives of the specialized agencies -- the United Nations Educational, Scientific and Cultural Organization, the World Health Organization and the International Atomic Energy Agency -- who have indicated their desire to be present at our meeting to take their places as observers.

At the invitation of the Chairman, Mrs. Sally Swing-Shelley, representative of the UNESCO, Dr. Sacks, representative of WHO and Mr. Piskarev, representative of IAEA took the places reserved for them.

OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN: Since the last session of the Committee on the Peaceful Uses of Outer Space, which was held in April of this year, we have been able to record further progress in the various national and co-operative international space programmes, and new achievements in the exploration and use of outer space, as well as in the practical application of space technology.

The space programmes of the two leading space Powers have moved further ahead. The succession of lunar orbiting vehicles and the successful soft landings on the moon have already provided answers to many of mankind's questions about our nearest neighbour in space. Only in the last few days we have witnessed another remarkable success in the scientific reconnaissance of the moon when the American Surveyor 5 spacecraft landed on the moon and succeeded in analysing the composition of the lunar surface.

(The Chairman)

Already in June, both the Soviet Union and the United States of America launched scientific spacecraft to the planet Venus, spacecraft which on their flight are expected to come close enough to Venus to detect and measure the planet's magnetic field, ionosphere and magnetosphere and possibly gather other scientific data. France also has established itself as an independent space Power having developed a booster to launch into earth orbit scientific satellites.

However, we have been able to witness scientific achievements not only by the space Powers, but also -- if naturally on a more limited scale -- by many other countries. The report on national programmes and activities which is before the Committee in document A/AC.105/L.36, shows that the exploration and use of outer space is far from being the prerogative of only a few countries, but that this field is opening rapidly to the ambition and talent of an ever-increasing number of nations: we have witnessed the launching by Italy of a satellite from the St. Marco ocean platform in the Indian Ocean; the work being done by the European Space Research Organization, or the growing activity of the many countries participating in space exploration and research by means of sounding rockets, ground-based experiments, satellite tracking and the analysis of results. In this connexion I might cite the example of India in the experimental work being carried out in the peaceful uses of space research referred to in the report of the Scientific and Technical Sub-Committee.

At the same time the application of space technology is playing an increasingly important part in everyday life. Satellite transmission of television and radio have become an accepted part of the telecommunications network. During the recent special session of the General Assembly, for example, television reports on the proceedings of the General Assembly were regularly transmitted via satellite to countries in Europe and elsewhere. Weather satellites are already providing valuable information for forecasters and, as the WMO's World Weather Watch moves from the planning to the implementation stage, will bring further benefits to countries throughout the world.

In the light of this rapid and continuous scientific and technical progress our Committee will, I am sure, continue to spare no effort in carrying out the mandate entrusted to it by the General Assembly.

(The Chairman)

Members of the Committee will recall that at our last meeting in April the Committee agreed on the programme of work for the year 1967. We meet now to consider the results of that work and to submit our report and our recommendations to the General Assembly.

The Committee has before it the report of the Legal Sub-Committee, contained in document A/AC.105/37, the report of the Scientific and Technical Sub-Committee in document A/AC.105/39 and the report of the Working Group on a Navigation Services Satellite System contained in document A/AC.105/38.

The Legal Sub-Committee met in Geneva from 19 June to 14 July under the newly elected Chairman, Mr. Eugene Wyzner, and continued its work on the elaboration of an agreement on liability for damages caused by the launching of objects into outer space, and on an agreement on assistance to and return of astronauts and space vehicles. The progress which the Legal Sub-Committee was able to make on these questions is recorded in the Sub-Committee's report.

The Legal Sub-Committee, at the same time, began the study of questions relating to the definition of outer space.

(The Chairman)

The Scientific and Technical Sub-Committee met in New York from 28 August to 6 September 1967 under the chairmanship of Dr. D.F. Martyn and submitted to us a number of recommendations on a wide range of subjects, in particular the exchange of information, the encouragement of international space programmes, international sounding rocket facilities and recommendations concerning training in space science and technology.

The Working Group on a navigation service satellite system, which the Committee established at its meeting in April, held a series of meetings in New York between 24 and 28 July under the chairmanship of Professor E.V. Chitnis. The report of the Working Group shows that the meeting provided a valuable opportunity for discussion by the experts attending the meeting of the need, feasibility and possibility of implementation of a navigation services satellite system. The Working Group reports that from its discussions a consensus emerged that while at present an agreed requirement for a navigation services satellite system does not exist, such a requirement is likely to arise in the relatively near future for certain functions which could be performed by a satellite system.

The Working Group also informs us that in its opinion it would be technically feasible to develop a navigation services satellite system, and that it would be desirable if ICAO and IMCO, representing the potential users of such a system, as well as other specialized agencies and interested organizations, continued to study the question and were invited to submit, annually, if possible, pertinent reports to our Committee.

From this short outline members of the Committee will see that the Committee has once again to deal with a considerable number of important questions.

I am convinced that, in spite of the short time available to us, the Committee will, in its traditional spirit of co-operation, make every effort to bring our session to a successful conclusion.

REPORT OF THE COMMITTEE TO THE GENERAL ASSEMBLY

- (a) REPORT OF THE SCIENTIFIC AND TECHNICAL SUB-COMMITTEE (A/AC.105/39)
- (b) REPORT OF THE LEGAL SUB-COMMITTEE (A/AC.105/37)
- (c) REPORT OF THE WORKING GROUP ON NAVIGATION SERVICES SATELLITE SYSTEMS (A/AC.105/38)

The CHAIRMAN: On this occasion, we are fortunate in having with us the Chairmen of both the Scientific and Technical Sub-Committee and the Legal Sub-Committee. Before we begin our discussion of the item, I shall, therefore, with the Committee's permission invite the Chairman of the Scientific and Technical Sub-Committee, Mr. Martyn, and the Chairman of the Legal Sub-Committee, Mr. Eugeniesius Wyzner, to introduce the reports of the two Sub-Committees.

If I hear no objection, I will call now on Mr. Martyn to introduce the report of the Scientific and Technical Sub-Committee.

Mr. MARTYN (Australia), Chairman of the Scientific and Technical Sub-Committee: I am honoured indeed to have this opportunity of presenting to members personally the fifth report of the Scientific and Technical Sub-Committee (A/AC.105/39). I shall be brief, as the report is already before the Committee.

We finished our work in complete concord some few days ahead of schedule, and I now direct the Committee's attention to the substantive items in the report which appear in paragraph 7. They are: Exchange of information; Encouragement of international programmes; International sounding rocket facilities; Education and training; and Definition of outer space. I will deal with these five items in a little more detail.

The exchange of information is going very well indeed thanks to the services of the Secretariat, the Outer Space Affairs Group of the United Nations in particular.

Under item (b), Encouragement of international programmes, I should like to refer to the report which was before us from the World Meteorological Organization and, in particular, to its efforts regarding the world weather watch. This started off fairly conventionally a year or two ago. It is

(Mr. Martyn, Australia)

becoming more and more oriented towards the use of global satellites to get a picture of the weather over the entire world on a given hour or day. This is what all meteorologists try to seek.

Then, under the same heading, we had a very interesting pilot programme put to us from India. India is particularly concerned with the problems of population and agriculture, and it is also very concerned that these problems should be put to the population by visual means. So, in the first instance, there is a programme in the vicinity of Delhi involving some 100 villages, and it is leading up to the possibility that the Special Fund of the United Nations, UNESCO and possibly NASA of the United States of America, too, should help in putting up communications satellites which will enable the peoples of India to see visually and understand visually the problems in front of them.

(Mr. Martyn)

Thirdly, under this heading, we have the report from the International Telecommunication Union. Here again, India was being helped by the setting up of a Satellite Communications Centre at Ahmedabad. Also, the International Telecommunication Union explained to us the problems that were involved in radio frequency allocations, especially now that satellites are up there with their wide spectrum of frequencies, and stated that it was looking into these matters very carefully indeed.

Fourthly, under this heading -- that is, "Encouragement of International Programmes" -- it was put to us that possibly we might consider two things: recommending the setting up of a space agency similar to the International Atomic Energy Agency to concern itself with space research, and also the increasing or enlarging of the scope of the Outer Space Affairs Group. On both those matters there was no consensus within the Sub-Committee.

I now turn to part C, which is "International Sounding Rocket Launching Facilities". Some years ago, as members know, the United Nations approved the setting up of an international rocket range at Thumba, in South India. There was a particular reason for that. It was because Thumba is right on the Magnetic Equator. For the benefit of those who are not especially trained in physics, perhaps I could graphically illustrate what I mean. If a steel or iron needle is balanced carefully on its mid-point and if it is then magnetized at the North Magnetic Pole, it will suddenly dip in this manner indicating; if it is magnetized at the South Magnetic Pole, it will dip in this manner indicating. But at the Magnetic Equator, it will remain horizontal. The Magnetic Equator is not completely aligned with the geographical Equator. It varies in some parts of the world 100 or 200 miles north, 100 or 200 miles south. I may be asked why this is interesting or important. The answer is that just as we have a jet stream, with which all of us here are familiar, around latitudes 35, 40 and 45 in the stratosphere, which can help jet planes go faster, though bumpier, on their way, there also is around the Magnetic Equator a very interesting zone called the Electrojet, which profoundly affects radio communications. That is why the Sub-Committee was interested in approving work done by rockets at Thumba. We received a recent report from Thumba and we approved that report as well.

(Mr. Martyn)

Then we had before us a request from the representative of Argentina that similar approval should be given to a rocket range at Mar del Plata, some 200 kilometres north of Buenos Aires. The report of the Sub-Committee recommends that in due course, when that range is operational, a small group of scientists should be sent there to examine the possibility of recommending it as a worthwhile international project. Members may ask why, and may ask what is the peculiarity of Mar del Plata. The answer is that in the South Atlantic there is a region in the ionosphere some 100 to 250 kilometres above us which displays somewhat remarkable properties which are not fully understood. A rocket range firing rockets into that region from Mar del Plata, we think, could tell us a great deal about the properties of the upper atmosphere in the South Atlantic. That is the reason for our recommendation.

The Sub-Committee also felt, and had recommended in its report, that in the future we should study very carefully the criteria, especially of uniqueness, for the recommendation of international sponsorship of such stations.

I come now to part D of our report, "Education and Training". The Secretariat prepared a voluminous directory which has been well received by all nations.

I come now to part E, the last part of our report, "Definition of Outer Space". This was referred to us, through the Committee's Chairman, by the Legal Sub-Committee. In January of this year a treaty was concluded and signed by many Powers. The words "outer space" appear in the title of that treaty. It therefore seemed logical to one or two delegations in our Sub-Committee that we should know exactly what outer space was. There is repeated reference in that treaty to outer space, the moon and celestial bodies. There is no doubt about the moon, there is no doubt about celestial bodies, but the question of outer space is a much more difficult one. We had before us working papers from France and Canada and a background paper from the Secretariat. After a great deal of discussion, it was found not possible to select criteria which would permit any unique definition. Members will understand that in English the expression used is "outer" space, and that in French it is "extra-atmosphérique". Clearly matters of national sovereignty and difficult practical problems arise here, and no one would wish our Sub-Committee to go

(Mr. Martyn)

quickly. It is a matter in which we feel we should hasten slowly. Nevertheless, the Sub-Committee decided to keep this matter under constant review.

The CHAIRMAN: I should like to thank Dr. Martyn for his very interesting report. I am sure that his comments in introducing the report of the Scientific and Technical Sub-Committee will be of great help to all the members of this Committee.

I now call on the Chairman of the Legal Sub-Committee, Mr. Wyzner, the representative of Poland, to introduce the report of the Legal Sub-Committee.

Mr. WYZNER (Poland) (Chairman of the Legal Sub-Committee): Mr. Chairman, may I

express my satisfaction at having the opportunity to attend this session under your exemplary leadership.

I am privileged to introduce to the Committee the report of the Legal Sub-Committee contained in document A/AC.105/37, which covers the work of its sixth session held in June and July. As recorded in the report, agreement was reached during the session on a formulation of two important articles of an agreement on assistance to and return of astronauts and space vehicles dealing with the notification of accident and the assistance in the territory of a Contracting Party. May I note at this juncture that the tragic deaths of the **unforgettable** American and Soviet astronauts have sounded a dramatic warning that a modern homo astronauticus is by no means free from numerous dangers and that he needs all the assistance which the international community is able to provide. Thus, I believe that the agreement whose primary purpose would be to assist astronauts and their vehicles in their difficult ventures should be taken up again by the Legal Sub-Committee with the aim of achieving its urgent completion.

Another important and urgent subject which the Sub-Committee studied at its recent session was an agreement on liability for damage caused by the launching of objects into outer space. Here again, an agreement was reached on a significant number of points and formulations contained in the several proposals put forward before the Sub-Committee, including the agreement on definition of the terms "damage" and "launching", on the field of application of a future agreement, and on the liability of international organizations, presentation of claims and other relevant issues. I hope that I shall not strike an **over-optimistic** note by saying that the progress we have made in drafting the two agreements will facilitate their early completion, although quite a few points of disagreement have to be settled first in patient and painstaking negotiations.

Having served for the first time last summer as Chairman of the Legal Sub-Committee after it had lost the outstanding services and guidance of Professor Iachs, I should like to express once more my appreciation to my colleagues in the Sub-Committee and the Secretariat for their co-operation and understanding, without which we could not have made any progress in our work. It should also be noted that the advice and directives which we received from you, Mr. Chairman, and the members of the Outer Space Committee at its previous session in April have proved to be most valuable and helpful.

(Mr. Wyzner, Poland)

As members of this Committee may recall, when we were considering last year the Draft Treaty on Legal Principles Governing Activities of States in the Exploration of Outer Space, including the moon and other celestial bodies, the view was expressed by many delegations that the Treaty was only a first important step in the development of space law and that more detailed agreements on specific legal issues should be worked out which would be both supplementary and complementary to the Treaty. It has been the belief of my colleagues that the work done by the Legal Sub-Committee at its sixth session is a further, although incomplete, step taken in **that direction**.

I cannot fail to mention that this year the Legal Sub-Committee, in accordance with its mandate, has initiated yet another study in the elaboration of space law, namely, the consideration of questions relative to the definition of outer space and the utilization of outer space and celestial bodies, including the various aspects of space communication. After a thorough discussion of the issues involved we have addressed through you, Mr. Chairman, a request for clarification of the scientific aspects of a definition of outer space by the Scientific and Technical Sub-Committee. Thus, I believe that for the first time we have entered the process of consultation and perhaps closer co-operation between the two organs, hoping that in the field of outer space, as in many other fields, lawyers could benefit from the work of scientists and, I hope, vice versa.

As we have heard from the Chairman of the Scientific and Technical Sub-Committee, the work was taken up by that organ, for which, I am sure, the Legal Sub-Committee will be very grateful. We did not expect spectacular results at once, but we are encouraged to hear that this matter will be under further consideration, and I hope that it will be followed further during the next sessions of the Scientific and Technical Sub-Committee. We have the same intention of pursuing the matter further at our next session.

Before concluding my brief remarks, Mr. Chairman, I should like to draw your attention to a procedural question which is not reflected in the report, but which the members of the Sub-Committee feel is important enough to be examined. I was asked by many of my colleagues to suggest to you that the time of the next session of the Sub-Committee in 1968 should be decided in advance, possibly during the present session or immediately afterwards, following the necessary consultations.

(Mr. Wyzner, Poland)

Our recent experience has proved that it is not enough to plan the session a month or two or even three months before, since much personal planning by the members is involved, especially due to their various other duties and obligations. On the other hand, I understand that the Secretariat was also faced with serious technical difficulties in attempting to provide the necessary facilities and staff at very short notice. I believe that I need hardly say anything more since the report itself provides ample material for the Committee's consideration.

The CHAIRMAN: I thank Dr. Wyzner for his very interesting report. I am sure that all the members of this Committee highly appreciate the explanations he has just given us in connexion with the work of the Legal Sub-Committee.

As far as the question he raised with regard to the date for the next session of the Legal Sub-Committee is concerned, I can assure the Chairman of the Legal Sub-Committee that we will do our best to decide on the date as soon as possible. But I am sure that he is also aware that fixing dates is always a very delicate and difficult problem and that a number of technical aspects are involved in this matter. I think that for those reasons we are usually not in a position to set a date for the sessions of the two Sub-Committees.

It has always been possible, with the co-operation of this Committee, to agree on the date, the place and the time of meetings. I fully recognize that sometimes only short notice is given, but this, I submit, was beyond the control of this Committee. At any rate, I wish to assure the Chairman of the Legal Sub-Committee that we will do our best to agree on a date early enough to enable all members to prepare their work for that session thoroughly.

(The Chairman)

We shall now begin the debate on the second item on the agenda. I would suggest in this connexion that the statements deal with all three points together -- namely, (a), (b) and (c) -- with the understanding that all delegations will have the right and the opportunity to comment on the various aspects of the three reports listed in the agenda, following their initial statements. In other words, if a delegation so desires, it may make further, separate comments on any of the reports -- the two technical reports or the report of the Legal Sub-Committee.

If I hear no objection to such a procedure, I shall take it that it is so decided.

It was so decided.

The CHAIRMAN: The first speaker on my list is the representative of France, Ambassador Bérard, who is well known to many of us. I should like to take this opportunity both to welcome him back to the Committee and to express our pleasure on the occasion of his return to United Nations Headquarters.

Mr. BERARD (France) (interpretation from French): There is no need to tell you, Mr. Chairman, how much I appreciate your very kind words. Since this is the first time I have had occasion to make a statement since my return to the United Nations, permit me to say to my colleagues and to our associates in the Secretariat of the United Nations how very pleased I am to be among them once again. Likewise, I duly appreciate this opportunity to make a statement under your particularly enlightened and benevolent Chairmanship, Sir.

One year ago, the Committee on the Peaceful Uses of Outer Space, already under your Chairmanship, after active work both in the full Committee and in the Scientific and Legal Sub-Committees was able to present exceptionally positive results to the twenty-first session of the General Assembly, which approved them by its resolutions 2221 (XXI), 2222 (XXI) and 2223 (XXI).

Among those results, the most outstanding accomplishment was unquestionably the draft treaty on the principles governing the activities of States in the exploration and use of outer space. That draft was unanimously approved by the General Assembly after many delegations had emphasized the historic importance

(Mr. Bérard, France)

and great originality of the new agreement, but not without several delegations having expressed regret over the inadequacies of its text. Thus the General Assembly, while recommending that States sign that new international convention and adhere to it as soon as possible -- as a great number of them have already done, and as France will also be doing in the coming days -- asked our Committee, on the one hand, to continue its work on the preparation of the more or less complementary conventions such as agreements on the assistance to astronauts and space vehicles and on the responsibility deriving from the launching of space craft, and, on the other hand -- with a view to making up for certain shortcomings in the treaty -- to undertake studies on the very important questions of the definition of outer space and the eventual regulation of its use.

However, the work of the Committee was not confined solely to the legal field. Anxious to promote space co-operation in its various branches the Committee was also concerned with the scientific aspect of such co-operation. It was with that in mind that the Committee recommended and had approved by the General Assembly at its twenty-first session, in resolution 2221 (XXI), the principle of convening in September 1967 in Vienna a United Nations conference on the exploration and peaceful uses of outer space, the purpose of which was principally to consider how the knowledge acquired by the countries very advanced in spatial technology might be made available to the developing countries. It was still with that in mind that our Committee presented -- and had approved by the General Assembly in its resolution 2223 (XXI) -- its annual report containing a certain number of concrete suggestions for the development of international scientific co-operation, one of those suggestions being, more particularly, to undertake, in an ad hoc working group, a study on the feasibility and usefulness of setting up a navigation services satellite system.

The long list of main points which appeared in the terms of reference conferred by the General Assembly on our Committee for the year 1967 shows that our Committee had before it a task as vast as it was important. Now, as we are about to submit a progress report to the General Assembly, we can say that the results achieved are encouraging and satisfactory, even though they may be less spectacular than those we were able to report on last year, and even though they may be more limited than we would have wished.

(Mr. Bérard, France)

I should now like to comment briefly on that part of our work which concerns the preparation, first, of a draft agreement on liability for damage caused by objects launched into outer space and, second, of a draft agreement on assistance to, and return of, astronauts and space vehicles. The preparation of those two drafts made considerable progress in the course of the sixth session of the Legal Sub-Committee on Outer Space, which met in Geneva from 19 June to 14 July under the distinguished and effective chairmanship of Mr. Wyzner. The report of that Sub-Committee (A/AC/3537) mentions a certain number of points on which agreement was achieved among the various delegations. Without going into the details of those negotiations, but trying to take an over-all view of things, I would say that we are now no longer so far from achieving over-all agreement. The French delegation, for its part, cannot but emphasize the advantage of having the international community, as soon as possible, take advantage of its agreements on liability and assistance in space questions, now that the treaty on outer space, the corner-stone of space law, will soon be entering into effect, now that the continual increase in space craft launchings enhances the risks of damage on the territories of other States and, finally, now that the tragic loss, a few months ago, of the Soviet and American astronauts has shown very dramatically the obvious need to reach an agreement at the international level to offset as far as possible the catastrophes which, alas, are the price man pays for the progress of science.

(Mr. Bérard, France)

We must work very quickly, which does not, of course, prevent our working well. In this connexion, in order that the agreements being prepared shall be the best possible, my delegation believes that they should be negotiated on a very broad basis -- which means that they should cover both assistance to vehicles and astronauts, that they should be applicable to international organizations which, like States, undertake launchings, and that they should define clearly and precisely the scope of responsibility so that those who may be harmed by the launching of vehicles may, as is only just, know to whom to turn in order to obtain reparations for any damage suffered.

In the course of its session in Geneva, the Legal Sub-Committee also -- as it was instructed to do -- took up the question of problems posed by the definition and use of outer space. The French delegation, which is especially interested in this aspect of our work, was anxious to make a contribution, however modest it may have been, both at the level of methodology and at the scientific and legal level. It proposed that the Legal Sub-Committee ask the Scientific Sub-Committee to provide technical data, which it will consider, together with juridical and political facts, as it tries to work out a definition of space which will one day, from many points of view, be useful, if not necessary, and to establish rules governing those spatial activities which may need such a definition if we wish them to be pursued in harmonious peace and respect for law and for the interests of everyone, as is required by the treaty on space itself.

While this method seemed wise and reasonable, it was not possible to apply it to all problems. But it did prevail regarding the consideration of a definition of space. In this respect, my delegation welcomed the functional co-operation which took place on this subject between the Legal and the Scientific Sub-Committees.

The study undertaken a few days ago by the latter Sub-Committee showed that as we already suspected, the problem was very complex, and it showed the relative value of scientific criteria. A study of the conclusions of the Sub-Committee will make it possible to guide the future work of the Legal Sub-Committee.

I now turn to the scientific part of the work of the Committee on the Peaceful Uses of Outer Space. First of all, I should like to say a word or two, briefly, about the forthcoming conference to be held by the United Nations on the exploration and use of outer space. It quickly became apparent that it would be difficult to schedule this conference on the date originally set, September 1967. At the request of the Soviet delegation, the Group of Experts who were to prepare for this conference under the wise direction of Mr. Sarabhai, proposed, in February of 1967, that this Committee postpone the convening of the conference until August 1968. That was decided by the General Assembly in the course of its special session.

My delegation believes that this decision is wise and realistic, for it gives organizers and participants -- States and international organizations -- extra time to determine how they might make the most useful contribution to the success of the Conference. Furthermore, the Group of Experts has already made progress in its preparatory work, especially in so far as it has agreed on the terms to be used in a letter to be sent to participants and in its decisions on the basic work to be carried out, the length and time-limits of communications, the order of discussion, and the work scheduled.

I should like to say now a few words about that part of the work of the Committee which concerns the implementation of decisions of the General Assembly as contained in resolution 2223 (XXI), which dealt with the need, feasibility and means of establishing a navigation services satellite system. The Group of Experts met from 24 to 28 July last to study this question and, after its work -- which was pursued under the wise guidance of Mr. Chitnis -- the group came to conclusions in its report which my delegation endorses

both in so far as concerns the list of functions that might be performed by the satellites and as concerns the inventory of needs of the users of satellites of this kind.

We approve the conclusions of this study, from which it has emerged that these questions are already adequately being taken care of by existing specialized agencies, and that there is not yet any immediate need for such satellites.

Finally, the Scientific and Technical Sub-Committee closed its fifth session last week. Here again, I should like to say that we fully endorse the conclusions that were reached. I should also like to say how important we feel it now is for this Sub-Committee at its next session, next year, to be able rapidly to pursue the task which it has already begun, the more so since new tasks now await it: further study of the general question of the definition of space, consideration of criteria applicable to installations sponsored by the United Nations; consideration of the desirability of increasing the material means of the group for spatial affairs in the Secretariat -- to which I would now pay tribute for the assistance which it provided to our Committee and the Sub-Committees.

After this rather lengthy statement on the efforts made in 1967 by our Committee, and on the results that it achieved, I should like to conclude by mentioning the importance which my country ascribes to international co-operation in outer space. Less than any other kind of activity, spatial activities can certainly not be pursued in a vacuum. In 1961 the French Space Programme was imbued with a multi-faceted spirit of co-operation.

May I remind the Committee that there has been co-operation with the United States, which made it possible for us to orbit, on 5 December 1965, our satellite FRI. There has been co-operation in sounding rockets with Argentina, India and Pakistan. There has been co-operation in ground stations with South Africa, Upper Volta, the Republic of Congo, Spain, Greece and Lebanon. Nor would I wish to overlook the co-operation that has taken place with our European partners in certain organizations -- CECLES/ELDO and CERS/ESRO -- as well as our participation in many international programmes: ISIS, ESSA, NIMBUS and INTELSAT and others. At the present time we are maintaining very fruitful co-operation with the United States within the framework of

(Mr. Bérard, France)

scientific and meteorological programmes, EOLE and FR 2. We are beginning with the USSR a programme for co-operation, characterized by its scope and diversity: the shooting of sounding balloons, sounding rockets; the development and launching of a scientific satellite.

I should also like to say how very pleased we are that this co-operation exists, for it helps us, it helps science, and it makes it possible for men, for scientists and for technicians to meet and to come to know each other better as they work thus for the peace of the world; and for the bringing together of people. In the same spirit, we shall actively co-operate with other countries -- with Brazil and with the Federal Republic of Germany, with which we will be building an experimental telecommunication satellite -- and we trust that we shall soon begin an operation of the same kind with all our European partners.

(Mr. Bérard, France)

The ultimate purpose of this co-operation must be to secure the participation of all countries in the progress of science and advanced technology and to have them benefit to the utmost from the application of science and technology. Our Committee must give thought to the best form that this co-operation could take. This is the task which lies ahead of it.

As far as our task this year is concerned, I believe we can say that it has been characterized by a desire to go further into the questions placed before us, and it is for this reason that I believe we have very ably performed the work assigned to us on which we must now report to the General Assembly.

Mr. BUFFUM (United States of America): It is with particular pleasure that I address this Committee after a year in which the completion of the Treaty on Outer Space has captured the attention of the entire world. The representative of France has already reminded us of this and I should just like to say en passant that I join you, Mr. Chairman, in welcoming him back to our ranks here in New York. In our judgement, the Treaty on Outer Space is a particularly outstanding example of the kind of progress that can be made towards international co-operation through the exercise of good will, patient effort and the display of a sincere concern for the interests of mankind.

The successful conclusion of this Treaty, we believe, was largely the result of the businesslike approach and the spirit of compromise which have characterized the proceedings of this Committee since its inception; and this spirit, we were very glad to see, was manifest again this summer in the work which the Legal and the Scientific and Technical Sub-Committees have done on the difficult problems which were assigned to them. And here I should like to comment that I believe we are all very much indebted to our colleagues who have laboured so long and so hard in those particular Sub-Committees since our plenary group last met.

With your permission, Sir, I should like today to outline the views of my delegation on the topics to be covered at this session of the Committee and, in particular, to give a brief assessment of the work of the Sub-Committees over the past several months.

But before taking up this subject I should like to emphasize once again the importance which the United States ascribes to the international space conference scheduled for August 1968, which the representative of France has also mentioned in his statement. We believe that this conference can do a great deal towards exploring the most practical and significant benefits of international space co-operation. But a great deal of hard work has yet to be done to organize this conference in a truly effective fashion. We do not doubt that the spirit of co-operation which has characterized the work of this Committee during the past year will continue and that the 1968 conference will contribute to even greater international co-operation and knowledge in the exploration of outer space and in the practical use of space technology for the good of the entire world.

We would venture to hope that this conference will be well attended by those for whose benefit it is being organized, particularly the non-space Powers and the developing countries. We hope that, in addition to the necessary technical experts who will attend, there will be strong representation of a non-scientific and non-technical character. That is because, as we see it, there are to be important decisions taken affecting Governments' abilities to take advantage of space benefits, and these decisions may often be taken by those who are not space experts themselves. Yet it is precisely this audience which needs to be better informed as to the future shape of space applications in a very practical sense.

I turn now to the work of the sixth session of the Legal Sub-Committee which met in Geneva through June and July. My Government considers that this particular group, which met under the very able and impartial leadership of its new Chairman, Mr. Wyzner of Poland, recorded positive, even though limited, progress in its work on a convention concerning liability for damages caused by the launching of space vehicles. This progress was, in our view, in very large measure the result of friendly and productive discussions between the United States, Belgium and Hungary and our three delegations submitted various treaty proposals before the Sub-Committee. A number of our agreed proposals were introduced, each of which was subsequently accepted and endorsed by the Legal Sub-Committee.

I might recall very briefly for the benefit of those who did not participate directly what we thought were the key elements of these proposals and the agreement reached.

First, the Sub-Committee agreed that the convention should provide for liability for damages caused by attempted as well as successful space launchings.

Second, the Sub-Committee agreed that the convention should not apply to nationals of the launching State, nor to foreign nationals whose presence in the immediate vicinity of a planned launching or recovery area is the result of an invitation by the launching State.

Third, the Sub-Committee approved a one-year time-limit for the presentation of claims.

Fourth, claims are to be presented through the diplomatic channels, with representation by a third party in the absence of diplomatic relations between claimant and launching States.

Fifth and finally, if a launching State does not make a settlement satisfactory to the claimant State within six months of the date on which documentation of the claim is completed, the claimant may refer the matter to an arbitral commission.

We believe that these agreed points mark the beginning of substantial and concrete progress on the subject of liability. We realize that they cover only relatively simple issues and that many difficulties still lie ahead. For example, the Sub-Committee has not reached agreement on meaningful provisions concerning the primary responsibility of international organizations for damages caused by their space activities. The Sub-Committee must also take a decision on whether the convention should cover damages sustained by spacecraft while in outer space as a result of the space activities of another Power. And we have yet to agree to establish a meaningful procedure for arbitration -- one which will offer a claimant State a real prospect for the prompt and expeditious settlement of its claim; and that is after all the great purpose of the liability convention.

Nevertheless, while recognizing that these difficult tasks lie ahead, we conclude that the Legal Sub-Committee should not be discontented with its work on liability. It has, for the first time, set down fairly precise parameters for the liability convention. In our view, there should be no need to repeat this basic work during the next round of negotiations; instead, the more difficult issues -- some of which I have mentioned -- can and should be tackled as soon as the Sub-Committee reconvenes.

(Mr. Buffum, United States)

On the subject of liability, I would not wish the matter to be concluded without acknowledging the helpful work of the delegation of Canada. In particular, a definition of "damage" -- which was the only treaty text provisionally agreed upon -- is the direct result of a considerable expendability of effort by the Canadian delegation.

I regret to say that we found that no comparable progress was made on the drafting of a convention on assistance to and return of astronauts and space vehicles.

(Mr. Buffum, United States)

Most of us had expected good progress on this subject at this particular meeting. The Outer Space Treaty, particularly Articles V and VIII, established basic rights and obligations on this subject which had already been broadly accepted by the membership of this Organization. In addition, the General Assembly found it possible to reach rapid agreement on the relevant portion of the mandate contained in General Assembly resolution 2222 (XXI), which called upon the Outer Space Committee "To continue its work on the elaboration of...and agreement on assistance to and return of astronauts and space vehicles...".

Therefore, we must confess to have been taken somewhat by surprise when at Geneva the Soviet delegation introduced a new treaty proposal which dealt with only one of the three questions involved in this issue. That delegation proposed a treaty which related exclusively to the question of the rescue of astronauts, and took the position that, although it was willing to "discuss" questions relating to the return of astronauts and space vehicles, only provisions regarding rescue should be incorporated in a detailed and separate treaty.

Thus a considerable amount of time of the Legal Sub-Committee's session was spent in controversy concerning the proper scope of an assistance and return agreement. In the end, through the good offices of the United Kingdom delegation, a means was arranged for negotiation in depth on this subject. But, unfortunately, even those negotiations proved disappointing since they produced only two very minor points of consensus. The first of these was the duty to inform both the launching State and the Secretary-General of the occurrence of an accident, and a second, on the duty of the territorial sovereign to "immediately take all possible steps to rescue the personnel and to render them all possible assistance". We regret that the Sub-Committee was not able to record significant progress on this subject during its Geneva meeting. But we do retain our strong hope that an assistance and return agreement will be forthcoming without undue delay. We know of no real reason of substance why it should not be. It is with that hope in mind that I should like to add that the United States would welcome diplomatic discussions on this particular subject in advance of the next meeting of the Legal Sub-Committee, and would be very happy if other delegations were prepared to participate in such provisional talks.

(Mr. Buffum, United States)

We also regret that it was not possible for the Legal Sub-Committee to reach agreement on how best to proceed with the study of the utilization of outer space. The United States did not find it possible to support the proposal of the French Government that a catalogue of space activities should be drawn up with "priorities" of "regulation" assigned to each particular use. On the other hand, we were prepared to consider proposals for the study of any specific and identified area of space activities. For example, we were quite agreeable to the study of a specific problem identified by the French delegation, namely, the crowding of satellites in geostationary orbit. Unfortunately, it was not possible to reach agreement on this basis. We were not prepared, I should point out, and are not now ready, to agree to a catalogue survey of space activities which would carry the implication that all space activities require regulation.

Now, I should like to address myself to the recommendations of the Scientific and Technical Sub-Committee. Mr. Martin has already given us a very cogent and indeed graphic summary of its work, so I should like merely to comment briefly and say that we did believe the discussions in that Sub-Committee were very useful, and that they reflected a growing understanding of the complex realities of the space age. In particular, we were pleased that in its discussions of the exchange of information and of education and training, the Sub-Committee made a serious effort to make certain that existing facilities were fully used before considering the establishment of new services, those which might merely duplicate services already available.

Although it became apparent that some delegations were seemingly not fully aware of the resources of the Outer Space Affairs Group of the Secretariat, most members do recognize, we believe, that considerable information on the nature of space activities and their results, as well as training opportunities, is already available from existing sources, that is, the Outer Space Affairs Group itself, COSPAR, ESRO, and certain widely-circulated publications of our own. One of the latter, I might draw to the Committee's attention, is the publication of our National Aeronautical Space Agency's Scientific and Technical Aerospace Reports, which is a comprehensive abstracting and indexing service, called STAR for short, and which goes every two weeks to almost 300 institutions in forty-seven countries under informal arrangements for the exchange of documents.

(Mr. Buffum, United States)

On the exchange of information, the Sub-Committee recommended that national reports of Member States include details of the work being reported, such as where and when carried out, by whom, and for what purpose. In our view, such information would enhance the value of those reports for ready reference and contribute to the Committee's aim of promoting international co-operation.

Another example of the realism shown in that Sub-Committee's deliberations was an increasing appreciation of the fact that States have an obligation to support their proposals to the Committee and its Sub-Committee with sufficient background information which relates to the needs and opportunities justifying the time and attention desired of other States. This, we felt, was particularly true with respect to the suggestion made there for the establishment of an International Space Agency. Such a major question can hardly be considered, we think, in the absence of the fullest supporting evidence of real needs which cannot now be met, real opportunities for benefit which do not now exist, and the most careful thought as to character, scope, function, and timing.

On the subject of international co-operation itself, the Sub-Committee recognized the high importance of the work being done by the World Meteorological Organization and the International Telecommunications Union in their own spheres, and, I think, recognized that progress in advancing the practical applications of space technology does depend in large measure on working closely with these and other expert groups in this field. I would also note, as the Chairman did today, that the Committee congratulated the Government of India for its current experiment in educational television, which will help determine the potential value of satellites for this purpose. We, too, regard this as an important contribution. It will help provide a realistic evaluation of an important potential use of space technology in which we are all greatly interested.

In addition, the Sub-Committee appreciated the request of Argentina for United Nations sponsorship of its prospective sounding rocket facility at Mar del Plata. It has recommended that this Committee, upon request from Argentina, approve the visit of a small group of scientists to the Mar del Plata station after it is in operation, in order to advise this Committee on granting United Nations sponsorship in accordance with the principles approved in 1962.

(Mr. Buffum, United States)

The Sub-Committee also decided to consider at its next session the criteria upon which it should recommend future sponsorship of international sounding rocket ranges. The Argentine request thus provides an excellent opportunity to reaffirm the principles approved in 1962 and to review in detail the requirement for some unique factors of international interest which would justify United Nations sponsorship.

(Mr. Buffum, United States)

There are other points in the report, and there is one final point which perhaps is worthy of comment, and I will conclude my comments on the Sub-Committee's Sub-Committee's work with this. I regret taking the time of the full Committee, but these were important developments which we felt desirable to summarize and to put into perspective as we view the outer space developments over the last year. That point is in the field of education and training, in which the Sub-Committee took note of the International Directory of Facilities for Education and Training, prepared by the Outer Space Affairs Group, and recommended that the printed directory be given wide distribution. I mention this because we feel that this directory is a very good example of the valuable work being done by the Secretariat, and we also join in expressing our appreciation for their tireless efforts in this field. We share the belief expressed in the Sub-Committee that States seeking more information in the space field should make more use of these and other compilations available than now seems to be the case.

I should like now to discuss one question which engaged both of our Sub-Committees over the past few months. This related to the definition of outer space. As you know, the United States has consistently expressed scepticism about the existence of any practical current need for such a definition, although nevertheless we have been very willing to give careful and sober consideration to the problem. After detailed consultations at Geneva, we found it possible to reach a consensus in the Legal Sub-Committee on the questionnaire to be sent to the Scientific and Technical Sub-Committee on the question of the definition of outer space. I think the Chairman of the Legal Sub-Committee, Mr. Wyzner, has correctly pointed out that this was the first application of interrelationship between the two and co-ordination of efforts on a problem which has an element common to both.

That questionnaire asked the Scientific and Technical Sub-Committee to give its views on relevant:

"...scientific and technical criteria... and to indicate, on scientific and technical grounds, the advantages and disadvantages of each of them in relation to the possibility of a definition which would be valid for the long-term future."

(Mr. Buffum, United States)

As Mr. Martyn has reminded us, a serious and interesting discussion of this matter was held in the Scientific and Technical Sub-Committee, which concluded, as he quoted:

"...it is not possible at the present time to identify scientific or technical criteria which would permit a precise and lasting definition of outer space". (A/AC.105/39, para. 6 (a))

In view of the important implications for the operational aspects of space research, this Sub-Committee decided to continue its consideration of a definition at future sessions. We think that this decision was fully consistent with the current state of technology, and that the question of definition, like other matters, although difficult, as Mr. Martyn pointed out, is one of those matters which can have a significant effect on the activities of States in outer space, and, therefore, must be approached with great care, with maximum knowledge and in response to the genuine needs of the international community.

Finally, I should like to comment briefly on the report of the Working Group on a navigation services satellite system which this Committee established last April. We believe that the Working Group succeeded in clarifying the potentials of such a system and has pointed clearly to what needs to be done next. We support its view that ICAO and IMCO should continue to study the requirements for potential applications of navigational satellites and to provide us with annual reports, if possible, on this subject. So, we associate ourselves with the hope of the Working Group that States which are active in research and development work on navigation services satellites will continue this work.

We believe, as the Working Group did, that questions involving an implementation of such a system can be considered realistically only after firm technical and economic requirements have been identified and the system or systems which may offer feasible ways of satisfying these requirements have been defined.

(Mr. Buffum, United States)

Thus, although progress since the completion of the Outer Space Treaty has been modest, there has been forward movement in several areas. I should like to conclude by saying that the United States looks ahead to further progress in this coming year, and we are confident that 1968, the year in which the first international Conference on the Peaceful Uses of Outer Space is to be held, can and will be a banner year for United Nations activities in this field.

Mr. MOROZOV (Union of Soviet Socialist Republics) (interpretation from Russian): First of all, may I congratulate you, Mr. Chairman, as well as the Chairman of the Scientific and Technical Sub-Committee, Mr. Martyn, and the Chairman of the Legal Sub-Committee, Mr. Wyzner, on the the brilliant manner in which all three of you have presented us with a balance sheet of the work that we shall now have to examine and present to the twenty-second session of the General Assembly. The content of your communications to a great extent makes it unnecessary for the Soviet delegation to touch upon some details which were described in your most interesting statements.

This session of our Committee is being held at a most significant time, the anniversary of the launching, ten years ago, of the first artificial satellite. Last year, at the session of our Committee, we noted that five years had elapsed since the **first** manned space flight when the Soviet cosmonaut, Yuri Gagarin, opened a new era in the conquest of space by mankind. We are happy that the Soviet Union, which launched the first satellite and which sent the first astronaut into orbit, and which this year celebrates the fiftieth anniversary of its existence, was a pioneer in the exploration and study of space for peaceful purposes.

In the year that has elapsed, national and common programmes of investigation in the use of outer space for peaceful purposes were actively pursued, and if quite recently only two Powers had the possibility of launching into orbit artificial satellites, at the present time we are glad to be able to congratulate new countries for their achievements in this field.

(Mr. Morozov, USSR)

New, more far-reaching experiments being carried on to unravel the mysteries of space have enabled scientists to understand to an ever-increasing degree the laws of nature and the phenomena occurring in space. Problems relating to the flight of man to the moon and to other planets of the solar system are being further worked out. It is well known to all in this room that the Soviet Union has made many efforts in this field of space exploration. Our country has great achievements to its credit in the study of the natural satellite of our planet, the moon. In January 1966 the lunar station, Luna 9, became the first automatic station to transmit information directly from the lunar surface, and this station obtained the first photographs of the lunar landscape.

(Mr. Morozov, USSR)

The further launching of orbital lunar stations Luna 10, Luna 11 and Luna 12 furnished considerable new data on the space surrounding the moon. The lunar station Luna 13, which was recently sent to the surface of the moon, in addition to furnishing new photographs of the moon's surface was able to furnish information on the characteristics of that surface. The photographing of the side of the moon invisible from earth has now been completed and the new photographs have made it possible to draw up an almost complete atlas of the moon.

The 175th satellite of the Cosmos series has been sent into space. It is designed to study in detail the physical phenomena in space near the moon. The cosmic rays in the wide range of the electromagnetic spectrum were studied in 1966 by the launching and orbiting of the heavy satellite Proton.

In the Soviet Union we have continued to study ways of reaching the neighbouring planets of the solar system. In November 1965, two stations were sent towards the planet Venus: one station was designed to reach near the surface of the planet and the other was designed to penetrate the planet's atmosphere. It is interesting to note that it was not necessary to correct the trajectory of Venus 2 in order for it to travel within the prescribed range near the surface of the planet. That fact testifies to the high accuracy of the launching of artificial celestial bodies.

Those experiments did not yield all the desired results, since communications were interrupted when the stations approached the planet. That is why the station Venus 4 is now continuing its travel towards the planet. That station was launched in June of this year.

We are most satisfied with the functioning of our meteorological satellites, which transmit excellent photographs of the cloud cover through television pictures on the lighted side of the earth as well as infrared photographs at night.

Communications satellites of the Lightning type launched by the Soviet Union have enabled us to set up television transmissions from Moscow to the Far East and other far-flung areas of the country, and have enabled us to engage in, among other things, experimental exchanges of colour television between the Soviet Union and France. The orbits of the satellites make it possible to correct their trajectories. We have developed very practical

ground equipment for the reception of those broadcasts as well as receiving equipment.

The Soviet Union has been successful in its programme relating to studies under the International Year of the Quiet Sun. Those studies, as is well known, were designed to establish links between solar activities and geophysical activities, such as the processes of the ionization of the upper atmosphere, of magnetic difficulties and of polar rays.

Space research is successfully being carried out in France, Italy, the United States and other countries.

Along with those programmes that I have mentioned, the international relations of the Soviet Union in the field of the peaceful uses of outer space have recently been further developed. The co-operation of the socialist countries in this field has been increasing. For example, in April of this year a meeting was held of experts of the socialist countries, with the participation of leading scientists in space exploration. A balance sheet of their activities was drawn up and further steps were worked out in the development of that co-operation. The meeting drew up agreements on co-operation with respect to various problems, experiments and studies in the fields of the physical characteristics of space, space meteorology, biology and medicine. The meeting drew up a programme for the common launching of satellites and rockets and prepared plans for seminars and symposia on various timely space matters. In the field of space communications, the meeting recognized that it was necessary to create an international communications satellite system for the transmission of television programmes and information by telephone and other media. As the participants at the meeting stressed, such a system of communications would further develop the economic, trade, cultural and other relations of the countries members of that system. I should like to stress that the system will be open to all countries desiring to join it.

The co-operation of the socialist countries in the field of the exploration of outer space will undoubtedly contribute to the progress of scientific work and to the solution of many problems linked to the development of various fields of activity of the participating countries, including their national economy.

In the past year -- and this has already been said by the representative of France, whose return to our Committee I should like to greet most warmly in the name of my delegation -- we have continued successfully to develop our co-operation with France with respect to problems relating to the exploration and study of outer space. I should like to say that I welcome the description of that co-operation that has been given in the Committee today by the representative of France, Mr. Bérard.

International co-operation continues with other countries such as the United States of America and others. One must stress the importance of conferences and symposia convened by various international scientific organizations, especially COSPAR. At those meeting scientists of various countries exchange views engage in official and unofficial discussions, and this is undoubtedly a great contribution to the cause of international co-operation.

I should like to note that the scientists of our country are most active and willing to share the results of the research carried out by them.

I should now like to speak about the report of the Scientific and Technical Sub-Committee. In order not to repeat what has already been said when you, Mr. Chairman, and the Chairman of the Scientific and Technical Sub-Committee presented the results of this work, I should like to limit myself to some remarks.

We should like to note the report of the International Telecommunication Union on its activities in the field of the peaceful uses of outer space. We consider that the report of the World Meteorological Organization also deserves our commendation. This report contains the plan of a world weather-watch for 1968-71. This document shows how important the present level of space exploration has become from a practical standpoint.

The documents presented by India concerning the study of the practical consequences of the use of communication satellites is also very important, and this has already been noted here. The Sub-Committee took the correct and effective decision by supporting the idea of the creation of an equatorial station in India, which was commented upon in such interesting fashion by the Chairman of the Sub-Committee today. Those who do not work in this specialized field are certainly very grateful to him for his exposition.

May I ask my colleagues who are laymen in this particular field -- and I am certainly one of them -- to join me in this rank since they are merely active in the diplomatic field. Now, in any case, we are better able to understand those matters.

The Soviet delegation supports the recommendation that the rocket-launching station in India should be continued under the aegis of the United Nations. We also agree that the launching station at Mar del Plata in Argentina should be visited by a small group of scientists to study the activities going on there and to present recommendations on the possibility of applying to the activities of that launching station the protection and interest of the United Nations, in

conformity with the principles adopted by the United Nations in 1962. I have in mind document A/5181.

The Soviet delegation is happy to note that in the past year the Committee has devoted much time to examining matters relating to the definition of outer space and the use of outer space, including the various consequences of space communications.

As far as the definition of the concept of outer space is concerned or, if you prefer, its lower frontiers, it has been shown by the discussion which took place in the Scientific and Technical Sub-Committee, after the discussion in the Legal Sub-Committee that there are insufficient scientific data on whose basis one could take a clear-cut decision. In view of the importance which this matter of the definition of the concept of outer space has for further exploration in this new field of endeavour of mankind, the Soviet delegation shares the idea advanced by the delegation of France and other delegations in the Scientific and Technical Sub-Committee that there must be a further study of the criteria which could serve as a basis before such a definition.

As has already been noted, the Committee is seized of the report presented by the Working Group created to study the necessity and modalities of the creation of a navigation services satellite system. The Soviet delegation considers that, despite the fact that this Working Group has not reached any definite conclusions as yet, as a whole it did do some useful spade work. In this connexion we deem it necessary to stress especially the contribution of the International Civil Aviation Organization and the International Maritime Consultative Organization (IMCO), which presented most valuable reports on the question examined by the Working Group.

Having concluded my remarks on these topics, may I now comment upon the work of the Legal Sub-Committee. The results of the work done at the Geneva session this year were presented to the Committee in a brilliant statement by The Chairman of that Sub-Committee, Mr. Wyzner. The sixth session of the Legal Sub-Committee was held in Geneva in June and July of this year, and it has, so to speak, embarked on a seemingly new stage of its work because an important characteristic of the summer session of the Legal Sub-Committee was that the Sub-Committee had a sound and solid legal foundation concerning the activities of States with regard to the peaceful uses of outer space. That solid legal foundation was the Treaty on Legal Principles Governing Activities of States

(Mr. Morozov, USSR)

in the Uses and Exploration of Outer Space, including the moon and other celestial bodies which, as is well known, is dated 27 January 1967. This date of 27 January 1967 could have, I must say -- given good will on the part of some States which today present themselves as pioneers in the elaboration of legal principles governing the use of outer space -- occurred much earlier, perhaps five years ago or, in any case, three or four years. But the fact remains that three or four years were spent by the delegation of the Soviet Union and by the delegations of Asia, Africa and Latin America in efforts for the purpose of convincing one delegation X -- which did speak at today's meeting in this Committee -- to convince it that it was necessary not only to have a declaration governing the activities of States in outer space, but also to have legal obligations, an international treaty signed and ratified in conformity with all the norms and principles of international law.

(Mr. Morozov, USSR)

So this important document was born somewhat late, for reasons which I had to mention because of an association of ideas that occurred to me while listening to the statement of the representative of the United States. Be that what it may, this document, signed by most States of the world -- and we welcome the new statements made today concerning the adherence to it of new countries -- was the fruit of the collective efforts of the Committee on the Peaceful Uses of Outer Space and of many of the other Member States of the United Nations, as I have already said.

This agreement on space is a great victory for the forces of progress. It is designed to ensure that outer space shall be used in the interest of all mankind. It is an important step towards the development of co-operation and mutual understanding among States and peoples. It goes without saying that this Treaty must contribute to facilitating the solution of other important international problems confronting mankind in space. And let us not forget that such an example could be most inspiring for the solution of some earthly matters which have still not found any answers. Those are questions asked by our peoples of the United Nations -- questions asked by the whole of progressive mankind.

Equal international co-operation provided for by the Treaty should enable all countries to take part in space activities in the interest of their peoples. The adoption of the Treaty is also extremely important for the development of a new field of international law: space law. As I have already said, the signing of the Treaty by the overwhelming majority of the States of the world in effect transforms those principles into generally recognized principles of international law, which, in turn, opens up new possibilities for further regulation of the activities of States in space.

In the light of this new, or seemingly new, stage in the activities of the Legal Sub-Committee, what results have been achieved by its first session following the opening of the space Treaty for signatures? It is well known that, in conformity with General Assembly resolution 2222 (XXI), adopted on 19 December 1966, the Legal Sub-Committee was to continue its work on an agreement concerning the rescue of astronauts and agreement on the liability

(Mr. Morozov, USSR)

for damage to vehicles already in orbit. In addition, the Legal Sub-Committee was to start studying questions relating to the definition of the concept of outer space and celestial bodies, including various consequences of the use of communication satellites.

The Soviet delegation, once again wishing to contribute as much and as widely as it could, as I have just explained, presented a draft treaty on the rescue of astronauts in the event of forced landing or accident.

Of course, everybody is entitled to make remarks on drafts presented by the Soviet Union or anybody else and on draft international treaties within the purview of the Legal Sub-Committee. However, I am convinced that every objective observer, after having compared the draft treaties presented by the Soviet Union in previous years with those we submitted in Geneva, will understand unless he is hobbled by prejudice against anything stamped "Made in the USSR" merely because it is made in the Soviet Union -- that in presenting the revised draft treaty we acted in a spirit of international co-operation, taking into account remarks previously made concerning the draft treaty which we had presented in the past on this matter. Only those who refuse to analyse objectively the two texts presented by us could be surprised, as was the case here, I think, with the new steps and proposals made by the Soviet delegation in Geneva. I believe there is no doubt that the importance of such an agreement is very great, since astronauts, according to the Treaty, are the envoys of all mankind. Unfortunately, it must be noted that, although, as far as the Soviet delegation is concerned, there was plenty of goodwill and we were quite ready to accept or discuss reasonable proposals which could be found acceptable by our delegation and many others, the Legal Sub-Committee, despite the efforts of its Chairman, was unable to conclude that task.

So as not to sound over-pessimistic, I should like to say that the Legal Sub-Committee did come to a preliminary agreement on some draft articles of the future treaty concerning the assistance to and return of astronauts and space vehicles. We consider that discussion in the Sub-Committee

(Mr. Morozov, USSR)

of a draft article which would give permission to a State announcing the launching of a space vehicle to engage in the search for and rescue of astronauts who had to land on foreign soil was very useful. As was said in the Sub-Committee, the question of the rescue of astronauts on the territory of Contracting Parties by the personnel and equipment of the State announcing the launching and most capable and competent in the matter is ever more timely in view of the development of various national programmes in the field of outer space. That is why the Soviet delegation would like to express the hope that not only it, but all other delegations in this Committee will, come to the unanimous conclusion that there must be an agreement on this most important question in the near future.

(Mr. Morozov, USSR)

The Soviet delegation, at the relevant stage of the work of the Legal Sub-Committee during its summer session in Geneva, declared that the Soviet Union was prepared to examine, within the framework of the treaty, not only questions of rescue of astronauts but also the return of astronauts and space vehicles in cases of accident or emergency landing.

We declare again here that we have no objection to completing the draft presented by the Soviet Union on 19 June 1967 concerning the rescue of astronauts in the event of accident or emergency landing, with provisions concerning the return of astronauts and space vehicles, in conformity with the provisions of the treaty on the principles governing the activities of States in the exploration and uses of outer space, including the moon and other celestial bodies. We consider that this repeated statement makes quite unnecessary any criticism levelled at our delegation and any attempt to make us responsible for the fact that the Legal Sub-Committee, despite such wide possibilities, was unable to achieve better and more effective results in its work.

I should like to leave this matter for the time being and not dwell on the subject any further. I think that in the interest of international co-operation in this field it would be better to declare that we consider that the Committee must take measures to conclude, as soon as possible, its work on an agreement concerning the rescue of astronauts, especially since, as was already said, after the conclusion of a space treaty real possibilities exist, in a short time, and given goodwill on the part of all the members of the Committee and the future sessions of the Legal Sub-Committee when it returns to this matter, to achieve positive results. It is possible, nay, indispensable, to work out generally accepted provisions for a draft treaty.

May I now speak about another matter examined by the Legal Sub-Committee: the working out of an agreement on liability for damage caused by vehicles launched into space. This Sub-Committee, as is well known, has reached preliminary agreement on the definition of the concept of damage, and some other provisions; the scope of the draft treaty; the time-limit for the presentation of claims to an arbitration commission; the concept of launching States, and so on.

(Mr. Morozov, USSR)

However, on many matters the positions of the various countries are still widely at variance, and this is something that we cannot forget. In the view of our delegation, there is an excellent basis for a generally acceptable draft agreement: the draft presented by the Hungarian People's Republic to the Legal Sub-Committee. We are convinced that this draft, which has been presented in full conformity with the agreement on space, firstly and secondly, contains clear-cut provisions making it possible correctly to solve practical matters related to possible damage. That is why the Soviet delegation fully supports the draft of the Hungarian People's Republic. As far as the Soviet delegation is concerned, we would not have the slightest difficulty in concluding, as soon as possible, on the basis of this draft, an acceptable agreed text. And of course this was always characteristic of the work of our delegation during the elaboration of many international agreements, including legal problems relating to space, and we are ready to take into account ideas put forward in this connexion by many other delegations.

In our view, documents presented by the Legal Sub-Committee concerning the discussion of the peaceful uses of outer space and celestial bodies, including various consequences of space communications, is of very great interest -- just as we find most interesting information contained in the report on the definition of the concept of outer space. The Soviet Union has studied most carefully, and will continue to study most carefully, ideas put forward during the debates on these matters by the representatives of France, Czechoslovakia and other members of the Sub-Committee.

We attach great importance to the key idea, stressed in the Legal Committee by the representative of France, that the use of outer space must be in the interest of the whole of mankind, taking into account the legitimate interests of States. The Soviet delegation shares the view expressed in the Legal Sub-Committee concerning the great practical importance of the problem of the use of space communications. We support the proposal of the delegation of Czechoslovakia that the question of the elaboration of the main legal principles regulating space communications be included in the agenda of one of the next sessions of the Legal Sub-Committee.

(Mr. Morozov, USSR)

We would like to conclude our statement by expressing the hope that the conference to be convened in 1968 by the United Nations to study results achieved in space exploration and the practical significance of these explorations will have a significant influence on further space work already undertaken by the scientists and engineers of many countries. The Soviet Union will lend every effort to ensure fruitful work at that conference, and our country has already begun and is pursuing active preparations for it.

Mr. IGNATIEFF (Canada): The Committee on the Peaceful Uses of Outer Space and its subordinate bodies have completed another year of constructive achievement, to which you yourself, Mr. Chairman, and the Chairmen of the Sub-Committees, whom we heard today, have contributed in very important measure. Both the Legal Sub-Committee and the Scientific and Technical Sub-Committee, as well as a new Working Group on a Navigation Services Satellite System, have made useful contributions to further understanding concerning the legal, scientific and technical aspects of the exploration and uses of outer space. Canadian representatives have played an active part in these deliberations because we believe in the importance of the development of further international co-operation in this field. Differing views have been expressed here about the extent and significance of the progress that has been made, but, given the fact that this Committee and its Sub-Committees proceed with their work on the basis of "no objections", there is a particular obligation upon all members to seek consensus and to work in a true spirit of international co-operation which can assure mutual benefit. As you have said, Mr. Chairman, space activity has ceased to be the prerogative of a certain few space Powers.

Briefly, Canada in the past year has continued to carry out studies of the upper atmosphere, particularly of phenomena associated with the auroral zone and the north Magnetic Pole in the Canadian Arctic. Activities at Resolute Bay in Canada's far north have been stepped up. In the summer of 1966 a purely Canadian expedition launched two scientific sounding rockets at Resolute Bay. This year, in a spirit of international co-operation, we have made it possible for the United States to carry out high-altitude balloon launchings and we are now in the midst of final preparations for both Canadian and United States rocket launchings next month. Other Canadian sounding rocket programmes involve the participation of scientists from the Federal Republic of Germany and Sweden.

The Canadian satellites Alouette I and II continue to provide large quantities of scientific data which are of world-wide interest and which indeed are being used by scientists of many countries. At Mill Village in Nova Scotia a communications satellite earth station is now in full operation, a second is being built nearby, and another of a different nature will be constructed in

central Canada. While the station at Mill Village is fully engaged in dealing with trans-oceanic communications traffic, we have become increasingly aware of the possible significance of satellite communications for internal traffic in a large country like Canada. Further details about Canadian national and co-operative international space activities have already been given in the Canadian contribution to the Secretariat's review on this subject in document A/AC.105/L.36. I believe, incidentally, that the review of national and international activities in this document is a very helpful compendium and Canada will be always interested in learning if there is any way in which it can be made more useful.

I should now like to comment briefly on the work of our two Sub-Committees, whose reports have been submitted to this Committee. In both of them the question of the definition and utilization of outer space has been given particular attention. It would appear from the examination of this problem that it is by no means easy to define outer space in a form which can be both legally and technically acceptable.

As I understand it, on the scientific side of the matter the atmosphere of the earth merges so gradually into the inter-planetary medium or solar atmosphere that many arbitrarily chosen dividing lines between the atmosphere and outer space could be shown to be consistent with scientific factors, depending on the time of day, the season of the year and solar activity. The basic scientific difficulty, then, in attempting a definition of outer space has been examined in considerable detail in a working paper which was submitted by the Canadian representative to the Scientific and Technical Sub-Committee and which is being made available to the Legal Sub-Committee for its information.

It is clear that it is for the Legal Sub-Committee to consider the importance and urgency of a definition in law of outer space in the context of working out specific draft agreements on such matters as assistance to and return of astronauts and the question of liability to which reference has been made here. Certainly the question of the acceptability of and the priorities to be accorded to scientific and technical criteria must be carefully weighed from a legal point of view in the Legal Sub-Committee.

The Legal Sub-Committee at its fourth session also resumed discussion of the two draft conventions on assistance to and return of astronauts and space vehicles and on liability for damage caused by the launching of objects into outer space. The usefulness of this discussion, in our view, lay in that it served to reacquaint the members of the Sub-Committee with the practical as well as the purely legal problems relating to the subjects under discussion and to identify and somewhat narrow the remaining areas of disagreement. We were particularly satisfied to find that, in the draft convention on liability, the Legal Sub-Committee was able to register, inter alia, some progress on a definition of damage. Nevertheless it must be clear from the Legal Sub-Committee's report in document A/AC.105/L.37 that a great deal of work still remains to be done. It is the sincere hope of the Canadian delegation that the next session of the Legal Sub-Committee will be more productive and that perhaps there will be more progress to show on agreed texts.

There is little I need to say about the report of the Working Group on a Navigation Services Satellite System. It is interesting to note that while such a system will be technically feasible, the Working Group does not consider at present that there exists an agreed requirement for such a system. It seems clear that this whole question should be kept under review, particularly in the specialized agencies concerned.

Finally, I should like to refer briefly to the international space conference now scheduled to take place in August 1968 in Vienna. At this particular juncture, when the preparation of papers for the conference has no doubt begun, I think it is most important that we should remind ourselves of the primary purpose of the conference, as a number of my colleagues have already done. That purpose was, and still is, to bring out the practical benefits that non-space Powers, and particularly developing countries, may derive from space exploration and research in a wide variety of fields.

The Canadian delegation, which took a strong interest in the development of a proposal for a conference of this type when a Working Group of the Whole discussed it in January 1966, is anxious that we should not lose sight of the purpose and the potential benefits of this conference. It is most important that the developing countries, especially in so far as they are not yet actively engaged in the

(Mr. Ignatieff, Canada)

applications of space science and technology for the benefit of their peoples, should be made fully aware of the potential benefits to them that might be derived from this conference. I would therefore urge all members of this Committee to spread the message as widely as possible to ensure appropriate and fullest possible co-operation in this conference by the countries which are intended to be its main beneficiaries.

In concluding, I should like once more to thank you, Mr. Chairman, and the Bureau, as well as the Vice-Chairman, the Chairmen of the Sub-Committees and the Secretariat, for the very helpful contributions which have been made to the work of the whole Committee on Outer Space in the last year.

The CHAIRMAN: We still have a number of names on the list of delegations wishing to speak, but because of the advanced hour I suggest we adjourn until tomorrow morning. We cannot have a meeting tomorrow afternoon because the Committee of Thirty-Three is meeting then, and I am sure that a number of delegations want to participate in its deliberations. We shall, of course, have meetings on Friday, and I hope that we can then finish the Committee's work. Therefore, if I do not hear any objection I shall take it that the Committee agrees to adjourn until tomorrow morning.

At the moment I have on my list for that meeting the names of the United Arab Republic, Sweden, Romania and the United Kingdom. I would ask the other members of the Committee who wish to speak to inscribe their names so that the Chairman may be better able to decide how many meetings we shall need in order to dispose of our business.

We shall now adjourn until 10.30 tomorrow morning.

The meeting rose at 5.50 p.m.