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# VIIIth Plenary Assembly of the CCIR

(Warsaw, 9 August.— 13 September, 1956)

by Dr. Ernst METZLER

(Concluded)<sup>1</sup>

(Translation)

## Reorganizational measures

As has already been mentioned, the idea of reorganizing the Study Groups of the CCIR dates from the London Assembly. It was not originally intended to change the working methods themselves, but the increasingly rapid development of the CCIR and its financial implications led the Warsaw Plenary Assembly to consider a more general reorganization that would lighten the work of the CCIR as a whole. One pointer to the increased activity of the CCIR from meeting to meeting since Stockholm is afforded by the total number of documents:

334 in Stockholm,	1948
819 in Geneva,	1951
1082 in London,	1953
1324 in Warsaw,	1956

The Warsaw decisions modifying procedures experimentally for the future are the outcome of proposals by the Organization and Finance Committees, the CCIR Secretariat and of discussions of the problem in the Plenary Assembly.

The Study Groups themselves remain the same in number, and the allocation of work is in general the same. It was felt desirable to give a more precise definition of their terms of reference, as follows:

### *Study Group I (Transmitters)*

1. To make specific studies and proposals in connection with radio transmitters and generally to summarize and coordinate proposals for the rational and economical use of the radio spectrum;

2. To study a number of problems concerning telegraphy and telephony from the transmission point of view;

3. To study spurious radiation from medical, scientific and industrial installations.

### *Study Group II (Receivers)*

Measurement of the characteristics of receivers and tabulation of typical values for the different classes of emission and the various services. Investigation of improvement that might be made in receivers in order to solve problems encountered in radiocommunications.

### *Study Group III (Fixed services)*

1. To study questions relating to complete systems for the fixed and allied services and terminal equipment associated therewith. Systems using the so-called ionospheric-scatter mode of propagation, even when working on frequencies above 30 Mc/s, are included;

2. To study the practical application of communication theory.

### *Study Group IV (Ground wave propagation)*

To study the propagation of radio waves over the surface of the earth, taking into account changes in the electrical constants of the earth and irregularities of terrain, and including the effect of a standard radio atmosphere.

### *Study Group V (Tropospheric propagation)*

To study the influence of the troposphere on radio wave propagation in so far as it concerns radio-communication.

### *Study Group VI (Ionospheric propagation)*

To study all matters relating to the propagation of radio waves through the ionosphere in so far as they concern radiocommunication.

### *Study Group VII (Standard frequencies and time signals)*

Organization of a worldwide service of standard frequency and time signal transmissions. Improvement of measurement accuracy.

### *Study Group VIII (International monitoring)*

To study problems relating to the equipment, operation, and methods of measurement used by monitoring stations established for checking the characteristics of radio frequency emissions. Examples of such measurements are: frequency, field strength, bandwidth etc.

### *Study Group IX (Radio relay systems)*

To study all aspects of radio relay systems and equipment operating at frequencies above about 30 Mc/s, including systems using the so-called tropospheric-scatter mode of propagation.

<sup>1</sup> *Telecommunication Journal*, January 1957, page 2e.



### *Study Group X (Broadcasting)*

To study the technical aspects of transmission and reception in the sound broadcasting service (except for tropical broadcasting), including standards of sound recording and reproduction to facilitate the international exchange of programmes.

### *Study Group XI (Television)*

Television.

### *Study Group XII (Tropical broadcasting)*

To study standards required for good quality service in the tropical zone, and for tropical broadcasting systems; interference in the shared bands; power requirements for acceptable service; design of suitable aerials for short distance tropical broadcasting; optimum conditions for utilization of frequency bands used for broadcasting in the tropical zone.

### *Study Group XIII (Mobile services)*

To study technical questions concerning the air, sea and land mobile services, the radiolocation service and navigation service; and miscellaneous operating questions of concern to several services.

### *Study Group XIV (Vocabulary)*

To study in collaboration with the other Study Groups and, if necessary, with the CCITT, the radio aspect of the following:

Vocabulary of terms and list of definitions, lists of letter and graphical symbols and other means of expression, systematic classification, measurement units, etc.

The Plenary Assembly decided that, in addition to these permanent Study Groups, "*ad hoc* Committees for the coordination of work common to two or more Study Groups, composed of the Chairmen and Vice-Chairmen of the Study Groups concerned, with the Director of the CCIR as Chairman" could be convened at the request of a Chairman as the need arose.

A Resolution was adopted in connection with the preliminary documentation of Plenary Assemblies which had totalled some 500 documents, or 3500 pages before the opening of the Warsaw session, to the effect:

1. That documents submitted to the Chairmen of the Study Groups should be as short as possible, and only in exceptional circumstances should be longer than 2500 words, with approximately 3 pages of figures, making in all 8 pages per document;
2. That documents of theoretical interest only, which do not have a direct bearing on Questions

and Study Programmes, or reports containing detailed original material, should not be submitted to the CCIR. Short abstracts only of such documents should be sent to the CCIR for translation and publication. Copies of these documents, in their original language, could be distributed by the Administration concerned directly to those who express their desire to receive copies;

3. That documents should contain only the minimum indispensable mathematical formulae or numerical and experimental data;

4. That the Director should issue reminders to Administrations to refrain from asking for more copies of documents than are really necessary.

There was a parallel Resolution with the aim of facilitating the work of the Group Chairmen, suggesting:

1. That, in the intervals between two Plenary Assemblies, participants in Study Group activities should send their contributions:

to the Chairman of the appropriate Study Group for examination (one copy);

to the Director of the CCIR for translation, reproduction and distribution to the members of the Study Group concerned (three copies);

2. That the necessary credits to cover the cost of supernumerary staff for the above work should be included in the extraordinary budget of the CCIR;

3. that this procedure should be applied experimentally for the period between the VIIIth and IXth Plenary Assemblies of the CCIR;

4. That the Director of the CCIR should report to the IXth Plenary Assembly on the results of the experience gained and make proposals with a view to the adoption of a final procedure.

Finally, the actual organization of work was changed to encourage a better distribution over the three-year period which is the normal cycle of the CCIR. Here are some of the main points of the new system:

It was decided that Study Group Chairmen should make fuller use of the provisions of the General Regulations providing for the organization of interim meetings. Such meetings would be held as near as possible to the following Plenary Assembly and would be held by groups of Study Groups. If necessary they would be staggered. A minimum period of four months preceding the opening of the meetings was specified so that documents could be handed in to the Chairmen (and a copy to the Director.) The Director would send the Chairmen's final reports to members in time for the latter to receive them at least a month before the date of the



following Plenary Assembly. The Study Groups would hold final meetings immediately prior to, and in the same place as, the Plenary Assembly; such meetings and the Plenary Assembly should last about 25 days in all. According to the system outlined, preliminary documentation preceding a Plenary Assembly would comprise only the 14 Chairmen's reports together with their annexes and the report by the Director.

As was pointed out in a proposal from New Zealand, distant countries have so far experienced great difficulty in receiving preliminary documentation in sufficient time before Plenary Assemblies. The new system is expected to improve this position.

### Finance Committee

Chairman : Mr. B. V. Baliga (India)

Chairman of the Sub-Committee : Mrs. F. T. Dowling (United States)

The terms of reference of this Committee, which were prepared at its first meeting, consisted of three items : examination of the budget and accounts of the VIIIth Plenary Assembly of the CCIR and the Agreement concluded with the Polish Administration, examination of the ordinary and extraordinary budgets of the CCIR for 1957, 1958 and 1959, and examination of the statement of expenditure and of the revised budget estimates for 1956. At the same meeting it was decided to entrust study of the first item to a Sub-Committee which would consist of the representatives of the Netherlands, Poland, and Switzerland, under the chairmanship of Mrs. F. T. Dowling (United States).

The Finance Committee realized that the development of radiocommunications would of necessity cause an increase in the activities and tasks of the CCIR, but nevertheless wondered whether it would not be possible to make some economies by introducing some changes in organization. Since expenses due to the increased number of documents to be prepared, translated, and distributed to members, added considerably to the size of the budget, it considered it desirable to acquaint the Organization Committee with the views expressed at its meetings concerning the form, number and length of contributions and the time limit in which they should be accepted, and to ask that Committee to attach special importance to the financial implications of decisions it might take.

The Organization Committee felt that by calling Study Group meetings in the intervals between Plenaries it would be possible to increase the efficiency of the latter and to avoid long and expensive stays by large delegations outside their own countries. The Finance Committee had to take this recommendation by the Organization Committee into account in its conclusions; for this reason, although it only provided for a sum of 20 000 francs for Study

Group meetings in 1957 it nevertheless suggested that a sum of 230 000 francs should be included for the same purpose in the extraordinary budget for 1958. For 1959, when the IXth Plenary Assembly would be held in the United States, the Finance Committee estimated 725 000 francs for extraordinary expenses. If this amount was slightly less than the amount estimated for 1956, when the VIIIth Plenary Assembly was held, it was because it was expected that the intended economy measures would make themselves felt by 1959.

The ordinary budgets for 1957, 1958, and 1959 were considered item by item. All entries, it was found, were justified, and so were the increases. The grant of cost-of-living allowances, and the cost of changing directors in 1957, were the cause of a fairly considerable increase in that year (132 700 Swiss francs.) But it would be unwise to strike out three posts at present unfilled, for which provision was made in the budget, for the amount of work done is steadily increasing and may render it essential to recruit the staff which the CCIR was able to do without in 1955.

The sub-committee set up by the Finance Committee considered *the Agreement reached with the Polish Administration*. Implementation of that Agreement, it noted, had been rendered easier by the understanding attitude displayed by the Polish Administration, which had endeavoured to offer every possible facility and had itself proposed that the amounts owed to it should be brought into line with the rates in force in Geneva for similar cases. The premises, provided free of charge, were just what the conference required. It was recommended that the Agreement be approved and that thanks be expressed to the Polish Administration for its generosity.

### Technical Assistance Committee

Chairman : Mr. Z. V. Topuria (USSR)

The special committee which handled this matter set itself two questions : "How are we to get information about the work already done? What is the best way of submitting proposals for the grant of Technical Assistance to applicant countries?"

The committee's recommendations, after amendment by the Plenary Assembly, are in favour of the creation, within the near future, of a joint CCIR-CCITT committee "to consider the ways and means whereby Technical Assistance is at present granted, and to make suggestions for improvement, as far as telecommunication is concerned, to the ITU Administrative Council." An annex to this recommendation gives the committee's terms of reference. The committee will include among its six members the Director or Vice-Director of the CCIR and the Director of the new CCITT. Two of the others will be taken from the CCIR and two from the CCITT. A circular-letter will be sent to Administrations jointly with the CCITT, to invite candidacies.

## Confirmation or nomination of Study Group Chairmen and Vice-Chairmen

	Chairman	Vice-Chairman
SG I	Mr. J. Lochard (France), new appointment, since the former Chairman had been elected Director, CCIR	Prof. Ryzko (People's Republic of Poland); new appointment, succeeding Mr. J. Lochard
SG II	Mr. P. David (France)	Mr. P. Abadie (France)
SG III	Dr. H. C. van Duuren (Netherlands)	Mr. A. Cook (United Kingdom), replacing Mr. J. A. Smale (United Kingdom)
SG IV	Prof. L. Sacco (Italy)	Mr. G. Millington (United Kingdom)
SG V	Mr. L. Smith-Rose (United Kingdom)	Mr. E. W. Allen (United States)
SG VI	Mr. J. H. Dellinger (United States)	Mr. Dana K. Bailey (United States); new, replacing Mr. Newbern Smith (United States)
SG VII	Mr. B. Decaux (France)	Prof. M. Boella (Italy)
SG VIII	Mr. J. Campbell (Australia)	Mr. G. S. Turner (United States)
SG IX	Mr. H. Stanesby (United Kingdom)	Mr. G. Pedersen (Denmark)
SG X	Mr. A. Prose-Walker (United States)	Mr. Miller (United States)
SG XI	Mr. E. Esping (Sweden)	Mr. G. Hansen (Belgium)
SG XII	Mr. B. V. Baliga (India)	Dr. M. B. Sarwate (India)
SG XIII	Mr. J. D. H. van der Toorn (Netherlands)	Mr. J. Sjøberg (Norway)
SG XIV	Prof. T. Gorio (Italy)	Mr. R. Villeneuve (France)

### Drafting Committee

Mr. Bramel de Cléjoux (France) was elected Chairman. The Committee did an enormous amount of work in Warsaw, the literature issued being exceptionally voluminous. To this committee much of the success achieved by the conference is due; it showed a high degree of competence in a task of unusual magnitude and difficulty. To it, once more, a vote of thanks on behalf of all.

### Publication of the Final Documents

It was decided that the same procedure should be followed as after the London Assembly, that is to say, Questions, Recommendations, etc., should be so printed that the page numbering should correspond, for ease of reference, in each of the three languages, with the same system of reference and foot-notes. The report by the Finance Committee would be included in Volume II.

### International Astronautical Association

This organization had suggested, by a letter to the Director, that a CCIR study group should be set up to study communication problems in outer space. Prof. van der Pol was asked to indicate to this body what the procedure was in such matters.

### Distinction

On 10 September, 1956, the Assembly stopped work at half-past ten so that delegates could attend the ceremony at which Prof. Balth. van der Pol was awarded an honorary doctor's degree by the Warsaw Polytechnic.

### End of the VIIIth Plenary Assembly

The fourteenth and last plenary meeting was especially solemn and moving, since, besides winding up its activities in Warsaw, the Assembly also had to pay tribute to Prof. van der Pol for all he had accomplished as Director. In addition, the Assembly had to say farewell to its Polish hosts who had done all they could to ensure that delegates should have a pleasant stay in Poland.

A few practical points were disposed of at the beginning of the meeting.

### Place and date of the next Plenary Assembly

Mr. CROSS (United States), speaking on behalf of his Government, warmly invited all delegations present to accept United States hospitality for the IXth Plenary Assembly, the ITU to decide when the meeting should take place. It would be for the ITU Administrative Council to decide on the exact date when drawing up the schedule of conferences.



The United States proposal was accepted enthusiastically with prolonged applause.

#### Study Group XI meeting in 1958

Mr. TOPURIA (Union of Soviet Socialist Republics), addressing the Chairman of the Assembly on behalf of the Soviet Government, said that his country would be most happy to invite Study Group XI to hold its 1958 meeting somewhere in the Soviet Union. The Chairman of Study Group XI (Mr. E. Esping) accepting on behalf of his Study Group, said how grateful they all were. The Assembly applauded at length.

#### International Geophysical Year (IGY)

The new Director, consulted as to how the CCIR could best cooperate in the above, proposed that the Assembly confirm the choice of Prof. van der Pol as member of the Special Committee for the International Geophysical Year. The suggestion was adopted by acclamation.

#### Approval of the Director's Report

Examination of the Director's Report was completed without comment, and it was tacitly approved by the Assembly. Prof. van der Pol again stressed the very great number of working documents issued in connection with the Assembly.

#### Farewell addresses

Mr. Gunnar PEDERSEN (Denmark) made a remarkable speech. Space, unhappily, does not allow us to reproduce it fully here. He paid tribute to Prof. van der Pol, to his scientific achievements, and to his able guidance of the CCIR. Having succinctly reminded his audience of what the rôle of the CCIR was, he concluded as follows:

"I know of no other field of human activity where international cooperation is so highly developed as it is in radio communication. In spite of undeniable, serious difficulties this cooperation has, as the years have gone by, increased both in scope and depth. The international character of the radio waves makes this inevitable.

The CCIR provides a most important foundation for this international cooperation. And it is to a large extent thanks to your ability and to your authority that the soundness of this foundation has never been challenged.

Prof. van der Pol, I believe that you must have been a happy man in your work. Your hobby and your task have been closely connected, you have had honours bestowed upon you from all quarters. And the whole world has—in a way—been your playground.

We thank you most warmly for what you have done for the CCIR in the past and we wish you success in

your future scientific activity, hoping that it will bring you full satisfaction.

I feel sure that any work that you may undertake from now on will also be a source of reflected glory for your old organization, the CCIR."

The Chairman then asked Mrs. van der Pol to take a seat at her husband's side. Amid applause, he offered her a bouquet of flowers and handed to Prof. van der Pol the present offered by the Assembly.

Prof. VAN DER POL, with characteristic humour, made a telling comparison between chemical elements and the countries represented in the CCIR :

"In connection with the international aspect of the CCIR work it recently struck me that the number of countries in the world, or the number of members of the ITU, is very nearly equal to the number of existing chemical elements.

It also struck me that, apart from their number, there are many other analogies between the chemical elements and countries. For instance, there are large molecules among the elements and there are small ones, just as there are large countries and small ones.

Moreover, nowadays many isotopes are known which show great resemblances to the mother element. Perhaps we could compare these isotopes with the associate members of the ITU, which often show a great similarity with their mother country.

It is also well known in chemistry that there are many elements which will not combine with others, whereas there are other elements which show a great affection for each other and then they combine through single, double or triple valency bonds. Perhaps the same is true of different countries.

Moreover, in chemistry and physics it often happens that an element becomes ionized when an electron suddenly leaves it and asks for asylum with another element. We read of similar cases in the daily press.

Again, some elements show great stability, whereas other elements appear less stable. History has shown that some analogy might be drawn with respect to countries.

Another well-known fact is that there are both natural and artificial elements and perhaps my first home country could be compared with an artificial element because the Netherlands are well known to have been practically reclaimed from the sea. But I cannot refrain from making another analogy with respect to my second home country, Switzerland, the seat of the Union. I am sure that our Swiss friends will not object if I compare Switzerland, i.e. Helvetia, which could be abbreviated as He, to Helium, which is a neutral and very stable "Edelgas."

Returning to the general analogies, there are on the one hand radioactive elements which continuously show signs of internal activity and ultimately disintegrate whereas on the other hand there are elements showing a passive tranquillity. I have been told that an analogy could also be applied in this case.

Of course in chemistry there are radicals and there are also conservative elements like the inert gases,



and perhaps the same is true in the other field. And we should also not forget to mention the rare earths.

Further, modern research studies the nuclei of these elements which originally were considered indivisible but which modern investigation has shown to be quite complex and composite, and we study the stability and resonance of these nuclei with respect to external excitation, but I will refrain from going into too many details here. Neither will I describe *Germanium*, nor even *Polonium*, although it would be tempting to do so. I will merely close this part of my remarks with the view that in the future we may perhaps expect another Mendeleeff to systematize this complicated material.

I now return to the CCIR, from whose Directorship I am retiring in a few months. I know that some people consider a retirement as a catastrophe in a man's life. Let me say at once that I do not in the least regard my retirement as such, because, as some of you may know, I have many personal interests which I am eager to find time to pursue. I do, however, regret having to depart from so many good friends amongst the delegates of the CCIR Plenary Assembly. I am happy and proud to say that I am on very good terms with all of you and that there are several delegates whom I have known for a very long time, and whom I may call my personal friends. I admit that it is sad to depart from them after so many years of pleasant collaboration.

Now that the CCIR will soon be in the hands of my old friend Dr. Metzler, I am feeling somewhat like a father whose daughter, brought up with great care and affection, is on the verge of marrying somebody she has selected and elected herself, and on which selection I, as her father, had no influence whatsoever. Under these circumstances, I might say to my future son-in-law, Dr. Metzler, that he will certainly have her affection if he treats her gently, and from the outset recognizes and tolerates some of her peculiarities, which do look worse than they really are. I might also say that she is a nice girl, worthy of his affection and that she is clever, well brought up, if I may say so, but that on rare occasions she is a bit headstrong, and he should not forget that she is all the time strongly influenced by some 90 countries as I have described above.

I, as her father, am now giving the bride away, and I do hope that there will be large offspring of Recommendations, Questions, Study Programmes, etc."

Lastly, Dr. van der Pol expressed his thanks to all who had worked with him in the Secretariat and his best wishes for all participants and for the CCIR in particular.

The Chairman, Prof. SZULKIN, stressed how much had been accomplished in Warsaw and also thanked all those who had laboured behind the scenes. He wished all and everyone a happy return home and said goodbye until the IXth Assembly.

Mr. CROSS (United States), on behalf of all delegations, said how grateful they were to the Warsaw City Council and to the Polish people in general. The Assembly had been outstandingly well organized, and delegates had been the object of the most

gratifying attentions. They had greatly enjoyed the excursions and receptions arranged on such a generous scale, so entertaining and so instructive for all. He congratulated Prof. Szulkin for the efficient way he had run the meetings. He associated himself with the thanks addressed to the secretariat, and thanked Dr. Andrada, Secretary-General of the Union, for allowing Mr. Townshend and other ITU officials to attend.

He paid tribute to the work of re-building being carried on by the Polish people, and, summing up, said :

" Mr. Chairman, we have had a very pleasant stay in your remarkable country and our Assembly has done much constructive work here. However, the time has now come to leave, so to the Polish Administration and the Polish people, who have been such admirable hosts, we say good-bye, good luck, and our best thanks for everything."

The new Director added a few words, paying tribute to Dr. van der Pol, and saying how grateful he was to Poland and to the Chairman of the Assembly.

Mr. TOPURIA (Union of Soviet Socialist Republics), in his turn, said how outstandingly good had been the spirit that had presided during the Warsaw discussions. The merit for that should be attributed to the very pleasant working conditions created by the Polish Administration, and to the Chairman's skill. The Chairman's tact and efforts, he said, had been those of a master conductor leading a great orchestra. Turning to the old and new Directors, he said :

" Now I should like to say a few words to Prof. van der Pol, who has directed the CCIR for the past eight years, for it was he who, because of his great character, was able to create an atmosphere of international good will, which is the basis for scientific knowledge and instruction. His clear brain saw that it was necessary to find some kind of common thought and synthesis. It is this scientific expert who, without making any difference between nations and peoples, has grouped us together as members of a single organization. I am sure that this spirit will continue, prosper and endure under the leadership of Dr. Metzler, our new Director."

Mr. DE ERICE Y O'SHEA (Spain) was the last to speak. On behalf of the Spanish-speaking delegates, he entirely associated himself with all that had been said.

" To the Polish Delegation, he concluded, which has given such a fine proof of fidelity and helpfulness, lasting all through our work in Warsaw, I should like to express our heartfelt gratitude. . . . Thanks to your kindness, and thanks to your spirit of reconstruction, this Warsaw has welcomed us with open arms, and has given us this wonderful, unforgettable hospitality, which we have enjoyed during the past few weeks, with the satisfaction and joy of this marvellous cooperation which has existed among the delegations here at present."

On breaking up, all those who attended the VIIIth Plenary Assembly will certainly have had the satisfaction of realizing that the hopes conceived in London had been fulfilled, that a spirit of international cooperation and healthy scientific emulation had prevailed over all other considerations. There had, perhaps, been some risk of CCIR activities

becoming more and more theoretical. Thanks, however, to the reorganization judiciously undertaken in Warsaw, and thanks to the vigilance displayed by all, it has been brought down to earth again and into a salutary contact with realities.

*E. Metzler*