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# The VIIIth and last Plenary Assembly of the International Telegraph Consultative Committee (CCIT)

(Geneva, 8-14 December, 1956)

(Translation)

The Assembly met in the *Salle du Conseil général*, Geneva, in December, 1956.

The Study groups met from 22 November to 7 December, 1956, while the Plenary Assembly and its committees met from Saturday, 8 December, to Friday, 14 December, 1956. Simultaneous interpretation in English, Spanish, French and Russian was provided in the large meeting room, and consecutive interpretation into English and French was practised in the three other rooms.

Thirty Administrations sent delegations to the Assembly :

Australia, Austria, Belgium, Bielorussia, Bulgaria, Canada, China, Denmark, France, Germany (Federal Republic), Ireland, Italy, Japan, Laos, Lebanon, Luxembourg, Netherlands, Norway, Pakistan, Poland, Roumania, Spain, Sweden, Switzerland, Turkey, Ukraine, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Yugoslavia.

The following Administrations, which had undertaken to share in defraying the extraordinary expenses of the CCIT, sent no delegations to the Assembly :

The Argentine Republic, Brazil, Cambodia, Egypt, Finland, Hungary, Israel, Morocco, New Zealand, Overseas Territories of the French Republic, Union of South Africa.

Eleven recognized private operating agencies sent representatives :

The American Cable and Radio Corporation, Cable and Wireless Ltd., Compagnie française des câbles sous-marins, Compagnie générale de télégraphie sans fil, Companhia Portuguesa Radio Marconi, Deutsche Atlantische Telegraphengesellschaft, Great Northern Telegraph Company, Italcable, Kokusai Denshin Denwa, Nippon Telegraph and Telephone Corporation, Radio Austria A. G.

Eight industrial organizations sent their own representatives to Study Group meetings (1 German, 1 Belgian, 1 Italian, and five French.)

Observers were sent on behalf of one specialized agency in relation with the United Nations—

the World Meteorological Organization—and by the International Air Transport Association, the International Electrotechnical Commission, the International Criminal Police Organization, and the International Railway Union.

The Chairman of the Assembly was Mr. Wyss<sup>1</sup> of the Swiss Delegation. Mr. Connelly (Canada) and Mr. Kayata (Lebanon) were Vice-Chairmen.

(See photograph in the French part, page 170f)

The Chairmen of the various Committees and Study Groups were as follows :

Budget Committee (set up by the Assembly) :

	Mr. KNAF (Luxembourg)
Study Group I	Mr. ALBANESE (Italy)
Study Group II	Mr. VAN LOMMEL (Netherlands)
Study Group III	Mr. PELLÉ (France)
Study Group IV and the joint CCIT/CCIR Study Group	Mr. JOLLEY (United Kingdom of Great Britain and Northern Ireland)
Study Group VI	Mr. COLLET (France)
Study Group VII	Mr. JOLLEY (United Kingdom of Great Britain and Northern Ireland)
Study Group VIII	Mr. WENINGER (Austria)
Study Group IX	Mr. WYSS (Switzerland)
Study Group X	Mr. GNEME (Italy)
Study Group XI	Mr. PERRY (Netherlands)

Two hundred and one delegates, representatives, experts and observers attended either meetings of the Study Groups or the Plenary Assembly itself.

The Assembly issued fifty-nine new Recommendations and revised twenty-four previous ones. Eight Recommendations were deleted. The study of 93 Questions was begun or resumed.

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The Assembly devoted its main efforts to the following questions :

## Telegraph distortion

Study Groups I, II and III had made great progress in their practical and theoretical studies of telegraph distortion. Studies of telegraph distortion had so far

<sup>1</sup> Editorial note : Mr. Wyss was injured in a motor accident at The Hague, in March last, during a meeting of CCITT Sub-Study Group 2/1. On behalf of our readers, we wish him a speedy recovery.



assumed that the signal restitution was faithful, i.e., that all the significant intervals of the telegraph modulation were to be found in the restitution in the same order and the same conditions. Study bore only on the degree of distortion of the significant instants, taking the condition of fidelity for granted.

But in radio services this basic condition is not always fulfilled and any consideration of telegraph distortion must, if it is to meet the practical needs of the CCIR and the CCIT, take that fact into account.

The definition of error rate (with its complement, the efficiency factor) by Study Group I, and the setting of limits to this rate, as proposed by Study Group IX (Recommendations F7 and F8) provided the requisite basis for the study of defective modulation and restitution.

The wire-telegraphy specialists have established that measurement of the degree of distortion must be accompanied by the probability that this degree of distortion will be exceeded during the transmission of signals in considerable numbers. Even when distortion is high, this probability is not nil, which signifies that fidelity cannot be guaranteed with absolute certainty, and that the concept of error rate is useful in wire telegraphy too (Recommendation B51.)

Radiotelegraphists, although right in giving most of their attention to the error rate, also know that the degree of distortion of a faithful modulation or restitution cannot be overlooked.

Thus the views of the radiotelegraphists and the specialists in wire telegraphy, the error rate and the degree of distortion, have been reconciled.

Furthermore, the activities of Study Groups II and III show that for a given type of telegraph communication, we may hope to obtain a relationship between the probable error rate and the probability distribution of the degrees of distortion. We can thus hope to link the two factors; the first, the rate of error, is the factor of interest in operation, but its measurement is a lengthy business which cannot, in practice, be often undertaken. On the other hand, the distortion analysers now being constructed by Administrations suffice for a speedy measurement of the probability distribution of the degrees of distortion. Study of the relation between these two factors will be one of the most important items for consideration during the first period of the new CCITT (Questions 11/9 and 1/8).

Further progress was also made in the study of the composition of degrees of distortion and a practical formula was proposed (Question 9/9).

#### Transmission equipment

A recommendation (B45) established the threshold of sensitivity for voice-frequency telegraph receivers. Recommendation B48 was devoted to standardization of the use of frequency-shift modulation for wire voice-frequency telegraphy.

Several proposals were made in connection with circuits used for voice-frequency telegraphy, carrier or radio. With the increasing use of radio relay links,

the problem of voice-frequency telegraphy over such links will require consideration. The promises made to the CCIT that these circuits would be in every respect comparable to the CCIF standardized circuits and would be able to carry the standardized voice-frequency systems without special precautions do not seem to have been borne out (Recommendation B49).

#### Telegraph switching

In both the telex and the general public services, the tendency is towards fully automatic operation. But discrepancies between national networks, as regards numbering and signalling systems and code composition constitute serious obstacles.

The Assembly adopted a proposal by Study Group VIII, to the effect that the European switched network for the general public service should be operated by interconnection of the national networks, and that the national network might be either the network also being used for the domestic service, or a special network reserved for international traffic. This is a very liberal solution but is obviously not conducive to the simplest technical solutions (Recommendation F11).

The VIIIth Plenary Assembly proposed the name "gentex" for the European switched service for traffic of the general public service. This name was immediately adopted in practice.

Several recommendations were issued standardizing the operational procedures of this gentex service (Recommendations F12 to F20); many Questions still remain to be solved in connection with this new service; they include operating regulations (Question 14/21) and the composition of answer-back codes (Question 15/21); this last Question was a very thorny one, for interconnection with national networks means that an international standardization of answer-back codes entails changing all national answer-back codes; however, a meeting of CCITT Sub-Study Group 2/1 in June, 1957, managed to reach an agreement on this question by a remarkable display of international cooperation.

Signalling conditions in the telex service were specified (New Recommendation E1), while for the gentex service the signalling conditions of the outgoing country will conform to those of the incoming country (Recommendation E8). The tendency will now be towards uniform telex and gentex signalling. (Questions 1/10 and 2/10.)

This network relationship is gradually spreading to the whole world through the use of radio channels for switching which has been made possible by the development of devices for detecting and correcting errors and of regenerative repeaters. The need for standardizing signalling on circuits made up of wire and radio sections gave rise to Recommendations E5 and E6.

The necessity for new signalling, such as "start of message," "message separation," "connection of reperforator" was covered by Questions 7/10 and 9/10.



## Facsimile telegraphy

The standardization of phototelegraph apparatus was revised, and the conditions for the use of wire or radio circuits for phototelegraphy were specified.

The development of direct recording apparatus opens up new possibilities for facsimile telegraphy, such as the establishment of subscribers' switched facsimile networks (Question 18/21).

## Operation

The VIIIth Plenary Assembly:

- modernized the General telegraph statistics (Recommendation F5),

- collected the various service codes in order to publish them in a single volume (Recommendation F6) and decided to study the amalgamation of these codes (Question 10/21),

- standardized the page layout of telegrams (Recommendation F9.)

## Rates and regulations

The VIIIth Plenary Assembly examined studies of the cost of:

- a telegraph circuit,
- a telex call,
- forwarding a telegram.

These data will be of great use for preparing a revision of rates for the lease of circuits and telex calls and a study of rates for telegraph circuits used for the transmission of transit telegrams.

Several proposals were put forward regarding the studies of rates and word counts undertaken by Study Group X, some of them involving the application of completely new methods in this domain.

In view of the proximity of the Telegraph and Telephone Conference (to be held in 1958), the VIIIth Plenary Assembly proposed some studies which, if concluded before the Conference, would be of great use to it.

These studies are embodied in the following Questions:

- 25/21 (new tariff systems),
- 26/21 (rates in the European system),
- 27/21 (word count),
- 29/21 (phototelegraph communications).

## New telegraph alphabet

A study of the requirements of the telegraph services will be undertaken to show whether there is need for an international alphabet offering more possibilities than the existing 5-unit alphabet (Question 22/8.)

## List of definitions

The Draft List of Essential Telegraph Terms was approved by the VIIIth Plenary Assembly. The

"List of Essential Telephone Terms" was approved by the CCIF, and the amalgamation of these two documents—carried out at the end of March, 1957, by an *ad hoc* working party set up by the Ist Plenary Assembly of the CCITT—will lead to the publication of the first volume of the List of Essential Telecommunication Terms (General terms—Telephony—Telegraphy.)

\* \* \*

The closing speeches were made by the Chairman, Mr. Wyss, and the senior Study Group Chairman, Mr. Gnome.

## Mr. Wyss spoke as follows:

"At the conclusion of the VIIIth and last Plenary Assembly of the old CCIT, I think we can declare ourselves satisfied with the results obtained. We had set ourselves the object of establishing a firm basis for the new CCIT to continue the study of telegraph matters in the best possible conditions.

This object has certainly been achieved and, in addition, we can record a gratifying development of our international agreements expressed in the form of recommendations. These recommendations are definitely a *sine qua non* if our telegraph services are to take full advantage of the new possibilities offered by modern technique.

I am thinking in particular of the bases established for the modernization of measurement methods, the essential terms which have been defined and the new notions which have been introduced. These acquisitions undoubtedly constitute an efficient working tool for the continuance of our studies.

The standardization of transmission equipment, in particular frequency-shift VF telegraph systems, the establishment of fuller standards for transmission and the extension of maintenance instructions are so many additional helps which will facilitate the planning, interconnection and operation of telegraph networks.

The more extensive standardization of switching installations and the bases which have been created for the study of a modern method of supervising telegraph apparatus will enable us easily to extend the general telegraph service and the telex service by automatic switching.

Moreover, since 1953, and largely thanks to the efficient work done in the CCIT, the idea of a European automatic switched network for the general telegraph service has become a reality.

On the operational side, we have prepared a new questionnaire for the telegraph and telex statistics—an important basis for any planning work. It can also be expected that an ITU publication containing the main codes in use in telecommunication services will appear in the near future.

On the horizon is a facsimile service between subscribers which, if developed, will be largely facilitated by the instructions drawn up for the standardization of apparatus.

Lastly, we have tackled the very foundations of tariffs and, by the calculation of costs, have laid new bases for—may I say—less arbitrary rates.

It is clear that we owe all this gratifying progress to all those who have been so wholeheartedly devoted to the cause of the CCIT.

That is why, on behalf of the Plenary Assembly, I take the liberty of congratulating and thanking for their brilliant efforts :

Dr. Andrada, Secretary-General of the Union ; Mr. Townshend, Interim Director of the CCIT ; the Directors of the CCIF and the CCIR, Mr. Valensi and Prof. Dr. van der Pol ; the Senior Counsellors, Mr. Besseyre and Mr. Lewis ; the Group Chairmen and their Administrations, the Rapporteurs and their Administrations and recognized private operating agencies ; the Secretariat, the interpreters and all those who, directly or indirectly, have contributed to the success of the meetings since Arnhem.

I sincerely trust that in the new CCIT we shall once again find this spirit of mutual comprehension and collaboration which has enabled us to reach the end of this three-year period with the certainty that we have made a step forward and served the common interest.

I hope that in the new CCIT we shall still be able to rely on the knowledge and experience of those who have deserved special merit for fearlessly giving the best of themselves with no ulterior motive."

**Mr. Gnome said :**

" As doyen of the Union, having participated from the very beginning in the Plenary Assemblies of the International Telegraph Consultative Committee and having acted as Study Group Chairman, allow me to take the floor to recall the great work done to develop and perfect the telegraph service by the issue of so many recommendations, resolutions and opinions which have guided Administrations and recognized

private operating agencies in the organization of their services.

It is not without regret that we see the existence of our Committee brought to an end as a separate organ of the Union. On this occasion we feel it our duty to tender our warmest thanks to the Interim Director, Mr. Townshend, and to the Senior Counsellor, Mr. Besseyre, for their indefatigable work in organizing the CCIT—the Study Group meetings and the Plenary Assemblies—which have always received the full documentation required in good time and for the help given to the Administrations and recognized private operating agencies whenever difficulties have arisen.

We also tender our thanks to all their collaborators in this excellent achievement.

In conclusion, we hope that the new Telegraph and Telephone Consultative Committee will follow the precedent of our Committee in its organization and in the execution of its work to achieve the aims of the Union and, in particular, to promote the development of technical facilities and their most efficient operation with a view to improving the efficiency of telecommunication services and making them, so far as possible, generally available to the public."

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The last Plenary Assembly of the CCIT rose at 11 a.m., on 14 December, 1956.

The first CCIT meeting had taken place in November, 1926, in Berlin. It is sufficient to compare the state of international telegraphy then and at the end of 1956 to measure the work done by the CCIT in its thirty years of existence.