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XVIIIth Plenary Assembly of the International Telephone Consultative Committee (CCIF) Geneva, December 1956, and preparatory meetings during 1956¹

(Translation)

The XVIIIth and last Plenary Assembly of the CCIF met in the *Bâtiment électoral*, Geneva, from 3 to 14 December, 1956.

In theory, this Assembly should have met three years after the XVIIth one, i.e., in 1957. To facilitate amalgamation of the CCIT and CCIF, this date was put forward to December, 1956 (so that the Assembly would be held concurrently with the CCIT Plenary Assembly). Hence numerous CCIF Study Group meetings had to be crowded into 1956 :

in March, 1956, there were meetings of the third, fourth, and fifth Study Groups ;

in June, 1956, meetings were held by the Subcommittee on Rapid Operating Methods, and by the sixth, seventh and eighth Study Groups ;

in October and November, 1956, all the Study Groups met before the Plenary Assembly.

The following 36 countries were represented in the Assembly :

Australia
Austria
Belgium
Bielorussian Soviet Socialist Republic
Bulgaria (People's Republic of)
Canada
Chile
China
Cuba
Czechoslovakia
Denmark
France
Federal German Republic
India
Ireland
Italy
Japan
Lebanon
Liberia

Luxembourg
Mexico
Netherlands
Norway
Pakistan
Poland
Portugal
Roumanian People's Republic
Spain
Sweden
Switzerland
Turkey
Ukrainian Soviet Socialist Republic
Union of Soviet Socialist Republics (USSR)
United Kingdom of Great Britain and Northern Ireland
United States of America
Yugoslavia (Federal People's Republic of)

Mr. Langenberger (Switzerland) was Chairman of the Assembly.

(See photograph in the French Part, page 100f.)

The Vice-Chairmen were :

Mr. Mapes (United States)
questions of concern to the third and fifth Study Groups (Transmission and lines)

Mr. Rouvière (France)
questions of concern to the eighth Study Group (Signaling and switching)

Mr. D. A. Barron (United Kingdom of Great Britain and Northern Ireland)
questions of concern to the fourth Study Group (Transmission and apparatus)

Mr. Nicotera (Italy)
questions of concern to the sixth and seventh Study Groups (operation and tariffs) and to the ninth Study Group (Maintenance)

Mr. Klovov (Union of Soviet Socialist Republics)
questions of concern to the first and second Study Groups (Protection)

Mr. Matsuda (Japan)
Letter and graphical symbols (tenth Study Group) and Vocabulary (eleventh Study Group)

The recommendations issued by the Assembly as the outcome of all the work done by the Study Groups are summarized below.

¹ The last Plenary Assemblies of the International Telephone Consultative Committee (CCIF) and the International Telegraph Consultative Committee took place in Geneva in December, 1956. They were immediately followed by the 1st Plenary Assembly of the International Telegraph and Telephone Consultative Committee (CCITT), which inaugurated this new Committee, formed through the combination of the CCIT and CCIF.

The present report of the XVIIIth and final CCIF Plenary Assembly will be followed shortly by two further articles, one on the final Plenary Assembly of the CCIT and the other on the 1st Plenary Assembly of the CCITT.

Protection against disturbance (1st Study Group)

Chairman : Mr. J. Collet (France) ;
Vice-Chairman : Mr. Mickailov (USSR)

An important task was fulfilled by the 1st Study Group (from 19 to 27 October, 1956) and by the *Working Party on revision of the Directives* (from 8 to 18 October and from 23 to 27 November, 1956), in Geneva.

The last edition of the *Directives concerning the protection of telecommunication lines against the adverse effects of industrial power lines*, although brought up to date in Geneva (1952) was still, to all intents and purposes, based on the Oslo edition of 1938. In 1954 the XVIIth Plenary Assembly decided to introduce new principles into these Directives, by changing, for example, the principle upon which the danger to telecommunication staff caused by induction from neighbouring power lines was calculated, and by the application of special rules to "high security power lines." It soon became apparent that these new principles could not be introduced unless the whole of the Directives were reviewed.

Hence the Assembly approved a text setting forth the principles upon which line protection should be based, to replace the first two parts of the Directives (*Directives for general application* and *Directives concerning approachments*.) Apart from these new principles (already recognized by the XVIIth Plenary Assembly), the new text differs from the old one mainly with regard to the following points :

- changes had been made in the calculation of risk, with the result that it is now permissible, in some cases, to take precautions less stringent than was formerly the case. Accordingly, allowance had to be made for dangers hitherto overlooked ;

- the admissible limits for noise induced on telephone lines by power lines were expressed in a manner which makes greater allowance for the annoyance caused ;

- a number of general principles were outlined for the study of disturbances to telephone signalling ;

- account was taken of the existence of new kinds of telephone cable with plastic insulation, which do not behave in the same way as paper-insulated lead-sheathed cables as regards dangers and disturbances caused by neighbouring power lines.

Furthermore, the Assembly approved a revised text for a chapter which appears in another part of the Directives and deals with definitions and methods of measuring the unbalance of telephone lines and equipment in relation to earth.

Lastly, the Assembly laid down the principles which are to govern the revision of other chapters in the Directives. The CCITT Sub-Study Group responsible for revision of the Directives will be responsible for the detailed work of drafting.

Protection against corrosion (2nd Study Group)

Chairman : Mr. H. L. Halstrøm (Denmark) ;
Vice-Chairman : Mr. Kroutl (Czechoslovakia)

The 2nd Study Group held but one single meeting, namely, a meeting in Geneva from 1 to 7 October, 1956. Under the programme drawn up by the preceding Plenary Assembly there was to have been a second meeting, but because the XVIIIth Plenary Assembly was advanced from 1957 to 1956 this could not take place.

In the short time available, this Study Group dealt with all the urgent questions (there were eight of them) in its work programme, and with three non-urgent questions.

Mention should be made of the following points, among those studied :

- the use of plastics in the sheaths of telephone cables,

- special arrangements for cathodic protection in common to several networks of duct-lines (telecommunication cables, electric power lines, gas mains and water conduits),

- the changes to be made in the *Recommendations for Protection against Corrosion (Paris, 1949)*, to take account of the most recent physico-chemical methods and cable construction technique.

The Assembly took the view that a second Study Group question (No. 19), about the impregnation of wooden telegraph poles, might be most interesting for countries with under-developed telecommunication systems. It might be well, it felt, if a CCIF document, summarizing the methods now in use, were to be included in the second portion of the *General Interconnection Plan* which is to appear at the end of 1957.

This text on the treatment of telegraph poles will be drafted early in 1957 by three members of the second Study Group. Account will be taken of the literature already assembled, as well as of that which certain countries have undertaken to supply.

The Assembly concerned itself with the question of bringing the following two works up to date :

- "*Recommendations concerning protection of underground cables against corrosion (Paris, 1949)*", and

- "*Recommendations for the protection of underground cables against the action of stray currents arising from electric traction systems (Florence, 1951)*".

This task is to be completed during 1959 by a working party in which qualified persons representing the following international organizations : the International Conference on Main High-Tension Networks (CIGRE), the International Union of Producers and Distributors of Electric Power (UNIPED), the International Railway Union (UIC), the International Gas Union (UIG), and the International Public Transport Union, will take their seats beside the delegates of telephone Administrations.

Line transmission (3rd Study Group)

Chairman : Mr. G. H. Bast (Netherlands) ;

Vice-Chairman : Mr. R. H. Franklin (United Kingdom)

At its meetings in Geneva, from 9 to 29 March and from 12 to 28 November last, the 3rd Study Group was able to consider only those urgent matters referred to it by the XVIIth Plenary Assembly (amounting in themselves to some fifty questions). Among the main points dealt with mention should be made more especially of the following :

a) Definition of the various "hypothetical reference circuits for telephony", and admissible noise on telephone circuits

In this connection, a very definite distinction was made between the limits to be recommended for noise *measured* at the ends of international circuits on the one hand, and noise *calculated* for "hypothetical reference circuits", on the other. The figures arrived at for the latter are designed to provide guidance in the planning of carrier systems on which long-distance international circuits can be carried. Each Administration must be able to plan that part of the route which lies within its territory on the assumption that the section in question will be used to make up a hypothetical reference circuit 2500 km (1560 miles) long, without worrying overmuch about the sections to be set up in other countries. Clearly, the following prerequisites will be needed if there is to be any certainty of obtaining numerous international circuits of satisfactory quality on the systems thus calculated :

the make-up of the hypothetical reference circuit must be most carefully defined, and so must certain other data required for detailed computation ;

these conventional definitions must be so chosen that, for a large proportion of actual circuits as long as the reference circuit (i.e. 1560 miles), the noise may legitimately be expected to be less than the limit laid down.

A proposal was made by the 3rd Study Group, and adopted by the Assembly, that further details should be introduced into the definition of hypothetical reference circuits on symmetrical-pair and coaxial-pair cable circuits. It may not be devoid of interest to point out that the VIIIth Plenary Assembly of the CCIR (September, 1956) was induced by the same considerations more closely to define the various reference circuits for radio relay systems.

The 3rd Study Group, at its March meeting, proposed a clause concerning the mean noise level during the busy hour, applicable to all wide-band carrier-cable systems ; this was adopted by the Assembly. The CCIR VIIIth Plenary Assembly agreed that this clause should be extended to cover radio relay systems, provided always that the hour during which the mean noise level is calculated should be

appropriately defined. It remains to specify the highest noise values that may be exceeded for very short periods. This is a point to be investigated over the next few years by a joint CCITT-CCIR Working Party, which will have to bear in mind the requirements of call transmission, of telephone signalling, of telegraphy and of television. The same Working Party will consider whether certain assumptions made in calculating noise at the ends of various reference circuits ought to be defined.

b) Systems providing more than nine hundred and sixty telephone channels in one coaxial pair

The coaxial pair of the kind already standardized by the CCIF affords nine hundred and sixty telephone channels in a frequency band some four Mc/s wide, with the division of line-transmitted frequencies already recommended by the CCIF, provided always that the intermediate repeater stations are spaced at intervals of six or seven miles. In several countries plans have been made to halve this spacing by the inclusion of additional stations between the existing ones. This would make it possible effectively to transmit a band some twelve Mc/s wide. Hence it had become a matter of urgency to lay down a standard plan for the division of line-transmitted frequencies in this widened band, to prevent the appearance of several different systems, and hence switching troubles. In this connection, the Assembly issued a provisional recommendation, which, after a postal referendum, is to become definitive within six months. The detailed study of these new systems will be carried on by the CCITT, with a view to their application in telephony and television.

c) Specification of carrier systems

The Assembly defined detailed specifications for carrier systems on coaxial-pair and symmetrical-pair cable systems, and for equipment for the transfer of groups and super-groups. Several questions were investigated, and a voluminous literature was assembled on the operation of open-wire lines with carrier systems. It was decided that this literature should be published in the second part of the General Interconnection Plan.

d) Television transmissions on metallic lines

In March, 1956, the 3rd Study Group had added to, and brought up to date, the recommendations relating to the characteristics of circuits for the transmission of black-and-white television pictures. The CCIR VIIIth Plenary Assembly adopted a report on this matter which in many respects represents the proposals made by the 3rd Study Group. Furthermore, the CCIR Assembly explained what its requirements were as regards the transient response of circuits designed for the transmission of black-and-white television signals, for the various television standards used in Europe.

The CCIR Assembly also issued a Resolution calling for the setting-up of a joint CCITT-CCIR Group which would meet later to consider the following matters :

whether the recommendations appearing in the aforementioned CCIR report could be accepted for the 1560-mile long television reference circuit and for all black-and-white television standards. Some of these recommendations have already been accepted by the CCIF, but for circuits varying a good deal in length and make-up;

a preliminary study of colour television transmission for the various colour television systems under study by the CCIR.

The XVIIIth Plenary Assembly of the CCIF recommended the First Plenary Assembly of the CCITT to give effect to this Resolution by completing the literature available to the Joint Group by a provisional CCIF Recommendation which is the outcome of the studies of the 3rd Study Group and deals with the same points as the aforementioned CCIR Report.

Transmission (apparatus) (4th Study Group)

Chairman : Mr. G. Swedenborg (Sweden) ;
Vice-Chairman : Mr. W. West (United Kingdom)

At its meeting in Geneva, 9-14 March, 1956, the 4th Study Group assembled a voluminous literature relative to methods followed in the various countries for the establishment of plans for local and trunk networks conforming to certain performance standards. This literature will be very useful to those countries which are developing their national telephone networks, for they will be guided in the choice of a method which will be the most appropriate in local conditions.

The most difficult problems studied by the 4th Study Group (at its meetings in Geneva, 9-14 March, and 15-21 November, 1956) were those concerning the admissible limits for circuit noise. Some conclusions were drawn from the articulation tests which have been carried out in the CCIF Laboratory for several years to determine performance impairment by circuit noise ; however, it was considered necessary to back up these conclusions by assessment tests to be carried out in different countries by a uniform method which has been put forward by the 4th Study Group. These assessment tests will give an indication of the percentage of calls considered "unsatisfactory" by telephone subscribers, in relation to the various degrees of circuit noise which may exist in actual practice. The CCITT will continue to study these questions, using the methods described above.

Insertion of radio relay systems in the general telecommunication network (5th Study Group)

Chairman : Mr. P. Marzin (France) ;
Vice-Chairman : Mr. Gori (Italy)

The 5th Study Group was only able to study the urgent questions on its agenda at its meeting in Geneva from 19-22 March, 1956. The results of its studies were passed on to the VIIIth Plenary Assembly of the CCIR. One very important question, which was studied in cooperation with the 3rd Study Group, affected the problem of noise clauses for radio relay systems.

At its meeting in Geneva, from 29 November-1 December, 1956, the Study Group took note of the Recommendations issued by the VIIIth Plenary Assembly of the CCIR on subjects of concern to the CCIF, including :

definition of hypothetical reference circuits for radio relay systems and limits for noises calculated at the circuit ends ;

interconnection of radio relay and metallic line systems.

The Plenary Assembly of the CCIF decided to include these CCIR Recommendations in one of the CCIF printed volumes, together with some comments by the CCIF 3rd and 5th Study Groups.

Operation and tariffs (6th and 7th Study Groups and the Sub-Committee on Rapid Operating Methods)

6th Study Group Chairman : Mr. A. Langenberger (Switzerland) ;

Vice-Chairman : Mr. Weninger (Austria)

7th Study Group Chairman : Mr. G. Terras (France) ;

Vice-Chairman : Mr. van Dijk (Netherlands)

Sub-Committee on Rapid Operating Methods : Chairman : Mr. Lambiotte (Belgium) ; Vice-Chairman : Mr. Chovet (France)

At their two meetings in Geneva, 28 June-5 July and 22-27 November, 1956, the 6th and 7th Study Groups managed to examine all thirty questions on the agenda. Some had already received provisional replies by the Sub-Committee on Rapid Operating Methods and the Committee for the Revision of International Tariffs.

As a conclusion to these studies, the Plenary Assembly adopted nine new Recommendations on operating and tariffs, accepted drafting amendments to eight other Recommendations and deleted a Recommendation concerning *Telegraph preparation of telephone calls*.

Of the nine new Recommendations, two deal with conditions to be fulfilled by recording apparatus replacing the called subscriber and answering in his

place, and charging for international calls which reach such apparatus; a third Recommendation specifies the time to answer of international operators. These three Recommendations do not call for special comment, but more important are the following six:

a) *New text for Recommendation No. 41 "International telephone charges"*

Recommendation No. 41 was completely refashioned and now takes semi-automatic operation into account. In semi-automatic operation, the operating expenses of an outgoing international terminal exchange remain at 0.80 gold francs, which is also the case with manual operation; however, this expense is reduced to 0.30 gold francs for the incoming exchange where automatic equipment only is used, no operator being necessary. In the case of an automatic transit centre, the expenses are defined as 0.45 gold francs.

These figures represent the conclusions of studies carried out by the *Committee for the Revision of International Tariffs and the Sub-Committee on Rapid Operating Methods*. The Committee for the Revision of International Tariffs also studied the expenses of telephone calls established over radio relay links and made a general revision of previous studies of expenses in the light of the smaller number of chargeable minutes per international circuit, resulting from the replacement of manual operation with advance preparation by manual or semi-automatic no-wait operation. A cost of 0.25 gold francs per 100 km of crowflight line was maintained as final for all types of modern carrier systems and for the new no-wait operating conditions.

b) *New Recommendation No. 41bis "Charging in the fully automatic international service"*

Charging for fully automatic international calls raises delicate problems which have had to be solved as a matter of urgency as this operational method has already been introduced or is about to be introduced in several international relations. By far the most preferable solution would obviously be to apply the charging system in force for automatic trunk calls in the country in question. Unfortunately, these systems differ from the system stipulated for the international service (first unit 3 minutes, then every extra minute) and vary, moreover, according to the country, for:

some countries have long since adopted a system based on the emission of trains of pulses every 3 minutes, the number of pulses in a train depending on the distance;

other countries have adopted or are preparing to adopt a system based on the emission of isolated periodic pulses at short intervals, the interval depending on the distance.

The new Recommendation definitively recommends for fully automatic international calls the discontinuance of the system in force for manual international calls, and adoption of:

either a minute-by-minute charging method or a charging method of the periodic-pulse type used for the national service.

c) *New Recommendation No. 49bis "International television transmissions" and new text for Recommendation No. 49 "International programme transmissions"*

Conditions in which circuits should be ordered for television transmission, and charging rules for such transmissions were fully defined. A working party which included representatives from the International Broadcasting Organization (IBO) and the European Broadcasting Union (EBU) had already prepared a draft Recommendation in Geneva, 22-27 November, 1956. This draft Recommendation was amplified so as to take into consideration the study of costs of television transmissions carried out by the Committee for the Revision of International Tariffs (27 June, 1956). The use of an international television circuit is subject to:

a charge of 20 gold francs for a crowflight distance of 62 miles (100 km) of television line, including the expenses of the two terminal stations;

a surcharge corresponding to thirty minutes' use of the circuit, this surcharge being payable for each television transmission.

Recommendation No. 49 (International programme transmission) was completely brought up to date. No major amendments concerning charging were made, in spite of a new study of costs of international programme transmissions made in 1955.

d) *Two new Recommendations:*

No. 34 bis "Advantages of semi-automatic handling of transit traffic",

No. 63 ter "Determination, by calculation, of the best arrangement for alternative routing",

are the outcome of discussions by the *Sub-Committee on Rapid Operating Methods*.

This Sub-Committee, at its meetings in Geneva, 18-28 June and 22-27 November, 1956, played a major role in the study of charging in the fully automatic international service (item b) above). Besides giving replies to several other questions, the Sub-Committee was responsible for preparing a "*Plan for the routing of semi-automatic international telephone traffic in Europe for the period 1956/1960*". This plan is meant to coordinate work to be carried out for the generalization of the semi-automatic international service in Europe.

Signalling and switching (8th Study Group)

Chairman : Mr. D. A. Barron (United Kingdom) ;
Vice-Chairman : Mr. Vassiliev (USSR)

At two meetings in Geneva (11-16 June and 21-24 November, 1956) the Study Group was able to consider all the questions on its agenda (15 in all). The more important questions concerned :

maximum admissible power of " electric signals " and for national tones transmitted over telephone circuits ;

arrangements for debiting international call charges to subscribers ;

calculation of the number of circuits necessary in the case of alternative routing to provide a specified grade of service.

(The last two matters were studied in close co-operation with the Sub-Committee on Rapid Operating Methods ; see above).

The replies to the questions studied revealed what excellent work had been done since the XVIIth Plenary Assembly in 1954 towards the preparation of Specifications for international signalling and switching equipment. The amendments proposed for these essential texts are very insignificant and are almost solely concerned with the wording.

At the meeting of the XVIIIth Plenary Assembly devoted to signalling questions, the Chairman was able to take the point reached by studies of international signalling as a yardstick of progress made by telephony throughout the world ; in fact, whereas the XVIIth Plenary Assembly in 1954 had discussed the definition of an international signalling system for semi-automatic operation, in 1956 the accent was placed by the 8th Study Group on new questions concerning fully automatic operation. Excellent proof of progress made in Europe was afforded, moreover, by the telephone booths installed in the *Bâtiment Electoral* by the Swiss Administration ; delegates using them could themselves dial Germany, the Netherlands, Brussels, London, Milan, Paris or Stockholm.

Maintenance (9th Study Group)

Chairman : Mr. J. T. Visser ((Netherlands) ;
Vice-Chairman : Mr. Valloton (Switzerland)

The 9th Study Group met in Geneva from 5-15 November. Besides preparing the *Periodic maintenance programme for European telephone circuits 1957*, the Study Group replied to questions it had left unanswered at its previous meeting in Paris

(October, 1956). Two points ought in particular to be stressed. The conclusions reached by the Study Group with respect to them had been initially drafted by two Working Parties which it had set up.

The first of these Working Parties met in Geneva on 23/24 March, 1956, to study the maintenance of circuits for television transmissions ; this Working Party had prepared a preliminary draft of *Maintenance instructions for international television transmissions* in cooperation with representatives of the International Broadcasting Organization (IBO) and the European Broadcasting Union (EBU). The final draft, which took into account comments made by the CCIR, the IBO and the EBU, was approved by the Plenary Assembly.

The second Working Party set up by the ninth Study Group studied the question of variations of equivalent (as a function of time) in international telephone circuits. It met in London (16-21 April, 1956) drawing conclusions from the 4th and 5th series of tests, held from January-March 1955, and October 1955-January 1956, respectively. These tests had been carried out on eleven international circuits set aside for the measurements, and permanent recordings of their equivalents were taken.

The conclusions drawn from these tests show that sound test methods giving representative results are now available. The stability of the European telephone network has improved quite noticeably since 1949-50, when the first series of such tests was carried out.

Some steps could be taken to improve the stability of the network still further, and the Study Group continues to focus its attention on these very important problems. It will be necessary to continue tests to assess what improvement occurs as an outcome of the latest recommendations and to supervise the periodic maintenance of the international network.

Symbols and vocabulary (10th and 11th Study Groups)

10th Study Group Chairman : Mr. J. N. Clara Correllano (Spain) ;

Vice-Chairman : Mr. van Poeteren (Netherlands) ;

11th Study Group Chairman : Mr. C. Albanese (Italy)

As a conclusion to the work of the 10th Study Group, which met in Geneva on 28-29 November, 1956, the Plenary Assembly approved the following :

certain amendments and additions to the List of Graphical Symbols for telecommunications (annexed to CCIF Recommendation No. 5, Green Book, Volume I) ;

a new Recommendation No. 5bis concerning sequence diagrams showing the operation of relays in switching circuits.

In addition, studies carried out by the 11th Study Group in meeting held on 30 November-1 December 1956, enabled certain definitions concerning relays to be adopted.

* * *

Continuation of studies in 1957/1960

The questions which are to be taken up or which require further study have been transmitted to the new CCITT.

For an urgent settlement of a number of outstanding points, it was proposed to the new CCITT that restricted Working Parties be set up.

Lastly, the Plenary Assembly specified what printed volumes would be published as an outcome of the Assembly.

Three volumes to be added to the series of CCIF Green Books will be issued:

Volume Ibis, containing the Minutes of the meetings of the XVIIIth Plenary Assembly and amendments to the other volumes of the Green Book;

Volume IIbis, replacing Volume II of the Green Book (Geneva, 1954) and containing Recommendations and informatory texts on protection;

Volume IIIbis, replacing Volume III of the Green Book (Geneva, 1954) and containing Recommendations on line transmission.

The second part of the General Interconnection Plan (first part published in 1955) will contain the latest CCIF information on technical problems of particular interest to countries which are developing their telecommunication networks.

Closing Meeting ¹

The last meeting of the Plenary Assembly was a solemn occasion as it signified the end of the CCIF and separation from its Director, Mr. Valensi, who retired on 1 January, 1957.

The front rows of the hall were occupied by the "veterans" of the CCIF—those who, from the outset (some of them since 1924) had played a very large part in its development. A considerable number of former Study Group Chairmen or Members' representatives whose work is now regarded as authoritative had come specially for the occasion.

Mr. LANGENBERGER, Chairman of the Assembly, welcomed them and recalled the services they had rendered, for which he tendered the deep gratitude of the CCIF.

Mr. GNAME, as Doyen of the Union, briefly reviewed the history of the CCIF. He recalled its origin in 1923 when, on the initiative of the French Administration and with the accession of several European

Administrations, the International Long-Distance Telephone Communication Consultative Committee was set up, to be replaced in 1925 by the International Telephone Consultative Committee, which became an organ of the Union by a decision of the Paris Telegraph Conference in the same year.

He then described its rapid progress and its achievements under its Director, Mr. Valensi, and paid tribute to the latter's decisive role in the development of the international telephone network.

Mr. BARRON (United Kingdom) paid tribute to Mr. Valensi and stressed the main features of his personality as follows:

"... When I first became associated with the CCIF, not quite ten years ago, he was already almost a legendary figure, and I looked forward with great interest to meeting him. I shall always remember and appreciate the courtesy and warmth of his welcome, and perhaps he would permit me to say that from that moment began an association and a friendship which I shall always value. I am sure that everyone present who has the privilege of knowing him must feel the same, because, Ladies and Gentlemen, who could fail to realize that he is truly an outstanding and exceptional man?"

"There are many men holding high positions who also deal with matters of major policy and administration, but who quite understandably find it difficult at the same time to have much knowledge of the more detailed operations of their organizations. There are others who concentrate overmuch on detail, to the detriment of wider issues. But Mr. Valensi has the exceptional ability of being able to carry out all his duties, both great and small, with the same abounding energy and impressive efficiency. The CCIF owes much of its success to this fact, because clearly the successful direction of such a body with its many complications and its wide technical span, must make heavy demands on its director, and the CCIF can count itself outstandingly fortunate in having had the services, over such a long and vital period, of a man who is at once an engineer, an administrator, and a politician (in the best sense). A man who can converse freely and fluently in a number of languages, and who couples with his efficiency those vital qualities in human relationships of humour, understanding, courtesy and humanity."

Mr. KLOKOV (USSR) joined in this tribute. Mr. Valensi's authority, learning and organizing genius had made it possible to solve the most complex problems, both technical and administrative, that confronted the CCIF. He was happy to recall the spirit of collaboration and mutual understanding that had always reigned in the work of the CCIF.

Mr. L. HAYES, Vice-Director of the CCIF, related some personal memories of Mr. Valensi and tendered to him the thanks and best wishes of broadcasting specialists.

Mr. VALENSI, thanking the Assembly, said:

"... In 1924, the CCIF was a very small body indeed. The preliminary technical committee for long-distance telephony in Europe resembled a little stream that had just sprung from the ground, although with consider-

¹ The Minutes of this closing meeting are to be found *verbatim* in Volume I bis of the CCIF Green Book.

able energy ; it was not long before it made its way among the first obstacles by it encountered. All of you have helped it on its way from time to time, and the little stream speedily became a mighty torrent, the energy of which is efficiently used for creative work, now well under way : the creation of a world-wide network of major telecommunication lines.

“ The fact that I have spent so many years of my life in this great work is, I consider, a great honour for me. My satisfaction is extreme when I hear you say that those numerous Administrations which have so long and so constantly supported me have not been disappointed.”

He then drew the portrait of the ideal international official—an ideal which he himself had been trying to attain all his life :

“ ... The perfect international official must, I feel, be imbued with a respect for human individuality. He must, too, be exceedingly honest, both morally and intellectually, for the success of an international organization is based on a moral authority, which alone can catch and keep voluntary allegiances.

“ Thereafter, technical competence in a high degree. This, even after a solid preliminary training, can be

maintained only by a stubborn effort to keep abreast of scientific and technical developments, for an international consultative committee is not just a body for codifying the present. It is a laboratory in which solutions for the future are being concocted, and its Director must consider himself a perpetual student.

“ Before meetings he must, like a radar station, scrutinize the technical horizon (be it distant) to discover the probable ends to be achieved, and any obstacles in the way, and to define the ways and means whereby such obstacles may be overcome. During meetings he must, like a parabolic mirror, collect all the light rays which may reach him from any delegation (for, in science and engineering, there is no difference between large countries and small), and he must endeavour to focus these various rays into clear, enduring sentences accessible to all.”

The last speaker, Mr. RYNNING TONNESEN (Norway), on behalf of the delegates, thanked the Chairman of the Assembly and asked him to forward to the Geneva municipal and cantonal authorities, the Swiss Directorate General of the PTT, the Assembly's appreciation of the reception they had so kindly offered to the delegates at the *Musée d'Art et d'Histoire*, Geneva.