

The Bell System Technical Journal

April, 1928

Joint Meeting of the Institution of Electrical Engineers and the American Institute of Electrical Engineers

ON February 16th last, a joint session of the Institution of Electrical Engineers in London and the American Institute of Electrical Engineers in New York was made possible by the transatlantic telephone. The audience in New York numbered over one thousand and that in London was several hundred. The two audiences were called to order at 10:30 A.M. New York time by Mr. Bancroft Gherardi, president of the American Institute of Electrical Engineers, and several papers were read both in New York and London to which the two audiences listened simultaneously. This joint meeting marks such an important milestone in the history of electrical communication that its entire proceedings are reproduced herewith. They are entirely self-explanatory.

Having called the meeting to order, Mr. Gherardi said:

"I will ask Mr. Charlesworth, Chairman of our Meetings and Papers Committee, to say a few words concerning the London meeting, and then to arrange for our joint session."

MR. CHARLESWORTH: Before proceeding with the joint session with our associates in the British Institution of Electrical Engineers, I wish to say just a few words concerning their London meeting in order to help you visualize the nature and significance of our joint session.

Our British associates have assembled in the auditorium of the Institution of Electrical Engineers Building located on the Victoria Embankment. The time is about 3:30 in the afternoon. Their meeting includes their President, Archibald Page, Chief Engineer of Central Electricity Board, their Vice President, Colonel Purves, Engineer and Chief of the British Post Office, the full Council of the Institution, members and invited guests from all parts of Great Britain, men prominent in all branches of the electrical industry.

Through the medium of developments which have been made in electrical communication, we are in effect to wipe out the great distance which separates the meeting places of our two societies, and to come together in a joint session in which our respective Presidents may exchange greetings in our behalf and in which other distinguished

representatives of our two societies may take part. By means of the loud speakers we shall be able to hear these proceedings as though we were all located in one great auditorium.

Colonel Purves has just finished making a statement to his associates concerning our meeting here in New York.

I will now speak to Colonel Lee who is at the telephone in London, and we will then proceed with our joint session.

Good morning, Colonel Lee.

COLONEL LEE: "Good afternoon, Mr. Charlesworth."

MR. CHARLESWORTH: "Are we ready to proceed with our joint session, Colonel Lee?"

COLONEL LEE: "We are, Mr. Charlesworth."

MR. CHARLESWORTH: "I will hand the telephone to Mr. Bancroft Gherardi, President of the American Institute of Electrical Engineers."

COLONEL LEE: "I will also hand the telephone to Mr. Archibald Page, President of the British Institution of Electrical Engineers."

MR. GHERARDI: Good morning, Mr. Page.

MR. PAGE: Good afternoon, Mr. Gherardi.

MR. GHERARDI: Mr. Page, it would give us great pleasure, if as President of the Institution of Electrical Engineers—the senior society, founded in 1871—you would act as chairman of this joint meeting.

CHAIRMAN PAGE: I regard it as a great honour to be asked to take the chair on this historic occasion. It is also a gracious compliment to our institution, and in accepting, which I do gladly, I desire to thank you, Mr. President, and the members of the American Institute of Electrical Engineers most heartily. I welcome all present at the meeting now in session, and venture to predict that the proceedings will prove exceedingly interesting and likely to live not only in our memories, but to be quoted by succeeding generations of electrical engineers as marking an important milestone in the advancement of electrical science. I am sure I interpret the desire of those assembled if I request Mr. Gherardi to address us, which I now do.

MR. GHERARDI: Mr. President and Members of the Institution of Electrical Engineers: On behalf of the American Institute of Electrical Engineers, I extend to you greetings and our best wishes. We are meeting here in New York at our Midwinter Convention. In the auditorium of the Engineering Societies Building in New York City, from which I am speaking, there are assembled about one thousand members of our organization from all parts of the United States, from Canada, and from other parts of the New World. It is with the greatest satisfaction that, as a result of the accumulated work of the scientist, the inventor, and the electrical engineer, it is possible for us

to hold this joint meeting—the first of its kind. It is with feelings of deep appreciation and respect that we think of the men who have exemplified the ideals of your organization—Faraday, Maxwell, Kelvin—and of the many others, past and present, who have contributed to Electrical Engineering and to the scientific foundations upon which it rests. These developments have been notable and have contributed in the greatest degree to the welfare of mankind. One of these developments is the art of electrical communication—the electric telegraph, and the telephone. These have made communication independent of transportation and no longer subject to all of its difficulties and delays. By the telephone, distance has not only been annihilated, but communication by means of the spoken word has become possible. Starting in 1876 with instruments and lines which, with difficulty, permitted communication over distances limited to a few miles, the telephone art has been improved year by year until continents have been spanned and, at last, even the limitations of the Atlantic Ocean have been overcome, and today telephone conversation between the two great capitals of the English-speaking world is a reality. We are gratified that transatlantic communication has made this meeting possible; it has added one more to the many ties existing between our two institutions and has added still another opportunity for friendly communication between us.

CHAIRMAN PAGE: Mr. Gherardi and gentlemen: Please regard me for the time being, not as chairman but rather as representing the thirteen thousand members of the Institution of Electrical Engineers. My first desire is to thank you, sir, for your most kind message of good will to us all. In turn we hail the President and members of the American Institute of Electrical Engineers with feelings of the utmost warmth and of everything included in the term good comradeship. The telephone must rank as one of the greatest inventions of the nineteenth century and it has transformed the daily life of all civilized people. Our indebtedness to Graham Bell for the boon he has conferred upon us increases with the years, and his memory, along with that of Franklin and Henry, will be cherished as becomes such benefactors of mankind. It would indeed be a gigantic task to attempt to exhaust the list of those of your society who have contributed so largely to the progress of electrical science and I must content myself by paying tribute to a great institution which has given proof time and again that engineering is truly international. It cannot be questioned that we are living in a period of extraordinary change due to scientific discovery, and in no field has the advance been more marked than in that of communication engineering. The commercial radio services

thus placed at our disposal assure closer and closer association between the English-speaking races, new spice is added to life and bonds of friendship materially strengthened. I rejoice that our two institutions can combine in the future even more effectively than in the past and that this is the outcome of the splendid work done in one of the branches of our own profession. I will now resume my chairmanship and call upon Dr. Jewett to speak.

DR. JEWETT: Mr. Chairman, Mr. Gherardi, and fellow members of the Institution of Electrical Engineers and of the American Institute of Electrical Engineers: The opportunity which this occasion offers of addressing jointly two widely separated groups of engineers whom, in times past, I have addressed vis-a-vis in London and New York, affords me the liveliest satisfaction.

I am gratified to participate in an event which marks both a notable advance in electrical communication and a pioneer demonstration of a wider use for electrical communication.

I am frankly pleased that, in common with numerous associates on both sides of the Atlantic, it has been my good fortune to play a part in the development work which has made this occasion possible.

Col. Purves and Mr. Gherardi will remember, and the rest of you will be interested to know, that in London more than a year ago, when we were engaged in final considerations preliminary to the opening of commercial transatlantic telephony, we discussed the details of just such a meeting as this. That our discussion should have been serious and not a pleasant mental diversion at a time when the channels of communications were not in operation is a striking evidence of the sound basis which underlies present-day electrical engineering. The fact that we saw and appraised the many obstacles to be overcome did not in the least diminish the assurance with which we talked of and planned for a distant event.

While therefore the present occasion is highly gratifying to the engineers whose work has made it possible, it is in no sense a surprise.

The success of this occasion is significant also in that it is the tangible evidence of a cooperation both intimate and full between men so situated as to make cooperation difficult. On behalf of my associates in America, I salute our associates in England.

CHAIRMAN PAGE: It is now Colonel Purves' turn to speak.

COLONEL PURVES: Mr. President, Mr. Gherardi, Dr. Jewett and gentlemen: It is an honour and a privilege to be associated with this notable event, which, one can justly feel, is breaking new ground in the advance of nations towards closer relationship. It is a great thing that two large assemblies, separated by wide expanses of ocean, can

join themselves together as we are doing now and interchange their thoughts and ideas by the simple and natural medium of direct speech to a combined audience. It opens up the prospects of results which thrill the imagination, and which are bound to be beneficent, and to conduce, by the way of clearer and mutual understanding, to the good of mankind. On this first occasion it is inevitable that the many professional interests which our two institutions share and which we should dearly like to talk over with each other should be pushed a little into the background, and that we should find ourselves pre-occupied mainly with the wonder of the thing itself.

The radio art has given us its essential basic principles and the high power amplifying tubes, which over here we call valves. Long distance telephony has contributed a host of new devices which are equally essential. Specialized broadcast has given us the loud speaking receiver. As we sit and talk to each other our speech is launched into the air by the radio transmitting stations at Rugby and at Rocky Point with an electromagnetic wave energy of more than two hundred horsepower, and, I may add, the combined effect of the various refinements and special devices included in the transmitting and receiving systems is to make the speech efficiency of each unit of this power many thousands of times greater than that of an equivalent amount of power radiated by an ordinary broadcasting station. Many further improvements are being studied.

I should like to express the feelings of great personal pleasure with which I am listening to the voices of my old and valued friends of the American Telephone and Telegraph Company, Mr. Gherardi, Dr. Jewett and General Carty, and to assure them and their colleagues, both on my own behalf and on behalf of the engineering staff of the British Post Office, that the increased opportunities of cooperation with them which the development of the transatlantic telephone system has afforded us, are appreciated in a very high degree. We have to thank them for much helpful counsel in this and in many other matters and we look forward with great pleasure to a continuance of our close association with them on the long road forward, over which we still have to travel together.

CHAIRMAN PAGE: We are delighted to have with us in New York General John J. Carty, Vice President of the American Telephone and Telegraph Company and Past President of the American Institute of Electrical Engineers. It gives me great pleasure indeed to have this opportunity to congratulate General Carty on the presentation which he received last evening of the John Fritz Medal. This was presented to him by the National Engineers Societies of the United States for

his outstanding achievements in the engineering field. General Carty is widely regarded as the *doyen* or, to be more correct, the dean of the telephone engineering profession, and we shall be glad if he will say a few words and propose a resolution on the subject of our joint meeting.

General Carty spoke for a moment and then offered the following resolution.

WHEREAS on this 16th day of February, 1928, the members of the Institution of Electrical Engineers assembled in London, and the members of the American Institute of Electrical Engineers assembled in New York, have held, through the instrumentality of the transatlantic telephone, a joint meeting at which those in attendance in both cities were able to participate in the proceedings and hear all that was said, although the two gatherings were separated by the Atlantic Ocean; and as this meeting, the first of its kind, has been rendered possible by engineering developments in the application of electricity to communication by telephone; therefore,

Be it resolved that this meeting wishes to express its feelings of deep satisfaction that, by the electrical transmission of the spoken word, these two national societies have been brought together in this new form of international assembly, which should prove to be a powerful agency in the increase of good will and understanding among the nations; and

Be it further resolved that a record of this epoch-making event be inscribed in the minutes of each society.

CHAIRMAN PAGE: Sir Oliver Lodge, who needs no introduction, is sitting beside me and I have asked him to second the motion.

SIR OLIVER LODGE: Mr. Chairman, I think it very kind of you and the Council to allow me to take part in this important occasion, to send greetings to our many American friends. It is surely right and fitting that a record of the transmission of human speech across the Atlantic be placed upon the minutes of those societies whose members have been most instrumental in making such an achievement possible, and I second the proposal that has just been made from America. All those who in any degree have contributed to such a result from Maxwell and Hertz downwards, including all past members of the old British society of telegraph engineers, will rejoice at this further development of the power of long distance communication. Many causes have contributed to make it possible; that speech is transmissible at all is due to the invention of the telephone. That speech can be transmitted by ether waves is due to the invention of the valve and the harnessing of electrons for that purpose. That ether waves are constrained by the atmosphere to follow the curvature of the earth's surface is an unexpected bonus on the part of Providence, such as is sometimes vouchsafed in furtherance of human effort.

The actual achievement of today, at which we rejoice and which posterity will utilize, must be credited to the enthusiastic cooperation owing to the scientific and engineering skill of many workers in the background whose names are not familiar to the public as well as to those who are well known. The union and permanent friendliness of all branches of the English-speaking race, now let us hope more firmly established than ever, is an asset of incalculable value to the whole of humanity. Let no words of hostility be ever spoken.

CHAIRMAN PAGE: Gentlemen, you have heard the motion proposed by General Carty and seconded by Sir Oliver Lodge. I now put it to the joint meeting. Those in favor. Contrary. Carried unanimously. I suggest, Mr. Gherardi, that we now adjourn the meeting. I feel that it has been eminently successful and that we should regard it as the forerunner of many more to come.

PRESIDENT GHERARDI: Mr. Page, before we adjourn, I should like to take this opportunity to thank you for the gracious manner in which you have acted as chairman of this meeting, the first of its kind that ever has been held. We on this side send you our goodbye greetings and consent to the adjournment of the meeting.

CHAIRMAN PAGE: That is all the business, gentlemen. The meeting is adjourned. Goodbye.