

# AUDIBLE SPEECH BY TELEGRAPH.

## PROF. A. GRAHAM BELL'S DISCOVERY—SUCCESSFUL AND INTERESTING EXPERIMENTS BETWEEN BOSTON AND CAMBRIDGEPORT.

From the Boston Advertiser, Oct. 19.

The following account of an experiment made on the evening of Oct. 9 by Alexander Graham Bell and Thomas A. Watson is interesting, as being the record of the first conversation ever carried on by word of mouth over a telegraph wire. Telephones were placed at either end of a telegraph line owned by the Watworth Manufacturing Company, extending from their office in Boston to their factory in Cambridgeport, a distance of about two miles. The company's battery, consisting of nine Daniells cells, was removed from the circuit and another of ten carbon elements substituted. Articulate conversation then took place through the wire. The sounds, at first faint and indistinct, became suddenly quite loud and intelligible. Mr. Bell in Boston and Mr. Watson in Cambridge then took notes of what was said and heard, and the comparison of the two records is most interesting, as showing the accuracy of the electrical transmission:

### BOSTON RECORD.

Mr. Bell—What do you think was the matter with the instruments?

Mr. Watson—There was nothing the matter with them.

B.—I think we were both speaking at the same time.

W.—Can you understand anything I say?

B.—Yes; I understand everything you say.

W.—The reason why you did not hear at first, was because there was a relay in the circuit.

B.—You may be right, but I found the magnet of my telephone touching the membrane.

W.—I cut this relay out, and then the sounds came perfectly.

B.—I hear every syllable. Try something in an ordinary conversational voice.

W.—Shall I connect their battery in the circuit?

B.—No; there is no necessity to connect their battery in the circuit, for the sounds come out quite loudly.

W.—I am now talking in quite a low tone of voice.

B.—The sounds are quite as loud as before, and twice as distinct.

W.—Cut out the battery and then talk.

B.—All right. I will cut out the battery now if you will keep listening.

[Here an interruption occurred, and after a short time

Mr. Bell said:]

B.—I thought you were going to say something.

W.—Is the battery cut out?

B.—No, but I will do it now.

[Battery having been cut out, Mr. Bell continued.]

B.—Do you hear anything now?

[Battery replaced.]

B.—Did you hear anything?

W.—No, not a sound.

B.—Say something to me when I cut out the battery again.

[Battery cut out.]

W.—.....

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[Battery replaced.]

\* B.—I fancy I heard a trace of your voice.

W.—Shall I put on our battery to see if it increases the effect?

B.—I'll tell you what we'll do. We'll take off our battery and put on theirs, as before.

[The company's battery having been placed in circuit faint and indistinct sounds were heard at the Boston end, and then came the intelligible sentence.]

W.—Is our battery off?

B.—Yes, our battery is off. What have you been doing? The sounds were quite soft at first, but now they are quite loud.

B.—Shall I put on our battery again?

W.—[Indistinctly heard.] That was very indistinct. Put on our battery.

[Original battery replaced.]

B.—We may congratulate ourselves upon a great success.

W.—Both batteries are on now. [Another sentence heard indistinctly.]

B.—Repeat the last sentence.

W.—Both batteries are on now.

B.—I understood that before, but I thought you said something else.

W.—Remove their battery, please.

B.—All right; our battery is the only one on now.

W.—I have put battery cells on here.

B.—How many cells have you there?

W.—S—i—x—six.

B.—Please whisper something to me.

W.—[Sound of the whisper clearly audible, but the utterance unintelligible.]

B.—I could hear you whispering, but could not understand what you said.

W.—Perhaps we have got the batteries opposed to one another. Had you not better reverse your battery and see what the matter is—or rather what the effect is?

B.—I will try the effect of reversing my battery.

[Battery reversed.]

B.—Is this any better?

W.—That sentence was accompanied by that curious crackling sound.

B.—Yes, I hear it too.

B.—What time is it by your watch?

[Battery again reversed.]

W.—What are you doing? I have not heard anything except...for quite a while.

B.—I asked you what time it was by your watch. Perhaps you hear me better now, because I have reversed the battery again.

W.—My battery is now cut out.

B.—Don't you think we better go home now?

W.—Yes, but why does your talking come out so much fainter now?

[Mr. Bell here placed the magnet of the telephone nearer to the

B.—Because I had moved the magnet further away from the membrane.

W.—That was very much more distinct.

B.—Will you try to understand a long sentence if I speak right on?

W.—I will.

B.—A few minutes ago I heard a fire-engine pass by the door. I don't know where the fire is, but the number of the box is 196.

W.—The time by my watch is five minutes past ten. Had I not better go into Boston.

B.—Yes; I think it is time to stop now.

W.—Shall I go to Exeter place?

B.—Yes; but look in here on your way in case I have not gone.

W.—Let us talk conversationally without noting.

### CAMBRIDGEPORT RECORD.

Mr. Bell—What do you think is the matter with the instruments?

Mr. Watson—There is nothing the matter with them.

B.—I think...at the same time.

W.—Can you understand anything I say?

B.—Yes; I understand everything you say.

W.—The reason why it did not work at first was because there was a relay in the circuit.

B.—You may be right, but I find...that my... touches the membrane.

W.—I cut the relay out, and then the sounds came out perfectly.

B.—I hear every syllable. Try something in a conversational voice.

W.—Shall I connect their battery in the circuit?

B.—No; there is no necessity for putting their battery in the circuit, as the sounds come out quite loudly.

W.—I am now talking in quite a low tone of voice.

B.—The sounds are quite as loud as before, and quite as distinct.

W.—Cut out the battery and then talk.

B.—All right. I will cut out the battery now if you will keep listening.

[Here an interruption occurred, and after a short time

Mr. Bell said:]

B.—I thought you were going to say something.

W.—Is the battery cut out?

B.—No, but I will do it now.

[Battery having been cut out, Mr. Bell continued.]

B.—Do you hear anything now?

[Battery replaced.]

B.—Did you hear anything?

W.—No, not a sound.

B.—Say something to me when I cut out the battery again.

[Battery cut out.]

W.—I could not hear a sound when the battery was cut out.

[Battery replaced.]

B.—I fancied I heard a trace of your voice.

W.—Shall I put on their battery to see if it increases the effect?

B.—I'll tell you what we'll do. We'll take off our battery altogether and put on theirs, as before.

[The company's battery having been placed in circuit faint and indistinct sounds were heard at the Boston end, and then came the intelligible sentence.]

W.—Is our battery off?

B.—[Very indistinct—unintelligible.]

W.—That was very indistinct. Put on our battery.

[Original battery replaced.]

B.—We may congratulate ourselves on our great success.

W.—We deserve success. Both batteries are on now.

B.—Repeat the last sentence.

W.—Both batteries are on now.

B.—I understood that before, but I thought you said something else.

W.—Reverse your battery, please.

B.—All right; our battery is the only one on now.

W.—I have six Daniells cells on here.

B.—How many cells have you on there?

W.—S—i—x—six.

B.—Please whisper something to me.

W.—I am now whispering.

B.—I could hear you whispering, but could not understand what you said.

W.—Perhaps we have got the batteries opposed to one another. Had you not better reverse yours; and see what the effect is?

B.—I will try the effect of reversing my battery.

[Battery reversed.]

B.—Is this any better?

W.—Much fainter, accompanied by that curious bubbling sound.

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W.—My battery is now cut out.

B.—Do you think we had better go home?

W.—Yes, but why does your talking come out so much fainter now?

[Mr. Bell here placed the magnet of the telephone nearer to the membrane.]

B.—Because I had moved the magnet further away from the membrane.

W.—That was very much more distinct.

B.—Will you try to understand a longer question if I speak right on?

W.—I will.

B.—A few minutes ago I heard a fire-engine go past the door. I don't know where the fire is, but the number of the box is 196.

W.—The time by my watch is five minutes past ten. Had I not better go into Boston.

B.—Yes; I think it is time to stop now.

W.—Shall I go to Exeter place?

B.—Yes; but look in here on your way in case I have not gone.

W.—Let us talk conversationally without noting.

Conversation was then carried on for about half an hour with the utmost freedom, and the experiment closed.