

## Letter from Alexander Graham Bell to Mabel Hubbard Bell, August 4, 1876, with transcript

Letter written by Alexander Graham Bell to Mabel (Hubbard) Bell. Brantford, Ontario, Saturday, August 4th, 1876. Dear May:

You will be glad to know that I have only time to send you a very short note to-day — that you may see that you are still in my thoughts.

All yesterday and today I have been pitying your father in Washington — for if we can scarcely exist here without melting what must the temperature be farther south! The temperature on my father's verandah this morning (in the shade) is 89° at nine o'clock — and it is frightful to think that the hottest part of the day is still to come. I suppose that you are equally oppressed with heat in Cambridge.

I can imagine you all in your cool wrappers trying hard to do nothing but vegetate!

Last night my father gave a splendid champagne supper to the gentlemen of Brantford in honour of my Uncle Edward — and a delightful evening we had. The grounds were brilliantly lighted up with Chinese Lanterns.

I was called upon for an address on the subject of Telephony. We had a wire from one of the outhouses to a table on the verandah and the experiments were perfectly successful. I attempted (for the first time) to send three voices simultaneously along the wire — and the experiment was a perfect success. If you have my book of experiments in Cambridge please make a note for me.

2

Three mouthpieces a, b, and c, were arranged so as to direct the voices of three persons upon the single membrane, m. Mary, Frances and I then sang the three parts of some

## Library of Congress

of Bishop's glees into the mouthpieces a, b, and c, and the sounds were perfectly audible from z. The experiment is a very important one for it shows that with the undulatory current a single transmitting instrument A will suffice for any number of simultaneous messages — while with the intermittent current there must be a distinct instrument for each message sent — and in addition there must be special instruments for inducing the current upon the line in order that communication may be established in both directions. The more I think of it the more I see that the undulatory current is the thing.

But one thing more is wanted and that is to find a way of strengthening the sound at Z. I am thinking all the time of that improved apparatus I told you of in Cambridge and I am gradually working out the details in my mind. I am convinced now that the undulatory current will travel to any distance and that there will be no difficulty in working it with instruments that will be ludicrously simple in their construction.

I have received a letter from Prof. Gage on the subject of Telephony — in which he suggests a method of increasing the amplitude of the electrical undulations in a manner that had already occurred to me in a somewhat different form. He suggests placing a light spiral of insulated copper wire upon the membrane M (fig. 1) in place of the steel spring. See Fig. 2.

3

M is the membrane and W W' the wire coiled upon it and B a small battery for passing a current through W W'. The wire W W' can be vibrated in front of A (fig. 1) instead of the steel spring — and the stronger the battery power B (fig. 2) the greater the audible effect at Z (fig. 1).

I think the idea very valuable and perfectly feasible. I am afraid my “short note” is growing very rapidly into quite a respectably sized letter.

At the supper last night Uncle Edward made an address of about an hour's duration upon the mode of government, material resources etc. of Victoria — the Province of Australia

## Library of Congress

from which he comes — which was so valuable by the members of Parliament present that a formal request was made through the mayor (who was present) that he should hand his notes to those members of the Press who were present in their private capacity — for publication in the Ontario newspapers — that the people of Ontario might know something of the astonishing growth and prosperity of that Colony. My uncle, who occupies perhaps the highest position in the Colony that can be held by a private citizen — the head of the Treasury — is a man your father would delight in meeting — for he is crammed full of statistics! — and has the affairs of Victoria at his fingers ends.

He purposed leaving here on Monday but he is now wavering in his plans. I have made a proposition which he is half inclined to adopt. I say that if he will stay another week I will go with him and Frances down the St. Lawrence to Montreal — and then they can accompany me to Boston and see my dear little bride that is to be — before they sail for Europe. I wish Uncle to see something of America before 4 leaving. He can sail as well from Boston or New York — as from Quebec.

With much love to all.

Your own, Alec. Miss Mabel G. Hubbard, Brattle Street — Cambridge. Letter received written on your way to Boston from Nantucket. What do you think of my “short letters”!