

July 9, 1875  
N. P. R.

292 Essex St - Salem  
March 18<sup>th</sup> 1875

This letter was received by me in March 24<sup>th</sup> 1875 and it has been since been out of my trunk since 14<sup>th</sup> Novemb<sup>r</sup> 13-4 1875. I am sorry to hear of your illness.

Dear Papa and Mama

Melville J. P.

I have just returned from New York thoroughly worn. Found your letter of the 14<sup>th</sup> awaiting me.

I am now beginning to realize the ease and anxieties of being an inventor. In order to complete the apparatus — as thoroughly as possible — I have decided to give up all Professional work for some weeks.

I have put off all my pupils and classes until the 12<sup>th</sup> of April. Flesh and blood could not stand much longer what ~~I~~ ~~the~~ such a strain as I have had upon me.

Professional work is all in confusion — and the only way ~~to~~ is to cut the Gordian Knot — and throw up everything till the end is achieved.

I long to write full account to you — but I have delayed writing in order to give a connected narrative of the whole.

You seem to think that my anxieties are over — when in truth they are really only beginning.

Before entering upon explanations let me ask you first — to hunt over all my old letters that you have preserved

for everything bearing on the Telegraph.  
Forward to me at once as evidence.

I must take action at once in regard  
to foreign patents. Will you or  
Uncle help me in this?

What I would like is this.  
I have written to my lawyers in Washington  
to make application for a <sup>foreign</sup> patent on  
my own responsibility.

Should I prove unable  
to pay for these applications at  
once — will you help me?

While these applications are being  
got out I shall write to the  
Herdmans offering them a share  
if they will take the pecuniary burden  
of any interference that may arise abroad  
from Mr Gray. Should they decline  
— which I should think unlikely —  
I should of course relinquish a foreign  
contest.

Before going on with the  
narrative from where I left off last  
time I shall look over your letter  
and see if there are any points to  
be answered.

I received Carrie's letter and your former  
just as I was starting for New York.  
I wrote to Carrie from New York — and

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Telegraphed to you — but a matter of importance prevented me from writing. I am so glad that Mr. Ottaway has decided to come. Perhaps I may be in a position to ask Mr. Ottaway to come and take care of me here. If she would it would be so nice.

There is no "lovely Lizzie" of mine on hand! That message was not sent by me! I do not think I am one of the marrying sort. When there is anything of the kind on the tapis — I shall consult you — first. I am too much given over to scientific experiments and to my profession — to think of anything of that kind yet — and I doubt very much if I ever shall.

I say this not in joke but in earnest. If I ever marry at all it will not be for years yet.

When I am free to dispose of my interest in the invention — I shall do so — and then you may expect to see Visible Speech go ahead. I can then take up the Electro-Motor which I think as valuable an idea as this Telegraph. *W.P.P.*

When will Uncle begin building? I should like to see how the wood looks now.

Please give my love to Uncle, Aunt, and cousins — and tell them not to think I forgot them if no queries come in my hurried letters.

I saw the notice of Prof. Whitney's work in the "Atlantic Monthly" about six weeks ago — and at once purchased a copy of the work. The article on Visible Speech is a reprint of that which was published in the North American Review in 1868 or '69. If you would like to see it — I shall forward the work. If you see or hear from the Kennedys — please thank them for papers sent to me at various times.

I presume the papers are sent by W. Kennedy, as they come from "Berth".

I must congratulate you on your new dignity — paper — "Justice of the Peace" — and am only sorry not to be able to direct my letter to "The President of the Horticultural Society". Perhaps you may shortly be "M.P." or M.P.

I hope so. Tell Mrs. Mitchell how glad I am to hear she is better. Give her my love and tell her I don't forget her. What is Charlie

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doing now? Is Aileen connected with  
the College? Has the photograph  
of Miss Reid ever been found? I should  
like to know — as I felt quite un-  
comfortable under the suspicion.

How splendid it will be if  
Chester should come out.

By the by I have a dim recollection  
of having spoken of some invention  
to Chester and George Minchin when  
I was last in Dublin. I am half  
inclined to believe it was connected with  
telegraphy. Please ask Aunt to  
sound them. If it should prove  
so — and if they have any recollection  
of the Men — it might be important  
for them to send a statement.

Now to resume telegraphy.

When I was in Washington I  
had a letter of introduction to Prof. Henry  
who is the Lyndall of America.

I had  
found on enquiring at the Institute  
of Technology that some of the points  
I had discovered in relation to the  
application of acoustics to telegraphy  
had been previously discovered by him.

I thought I would therefore explain  
all the experiments and ascertain what  
was new and what was old.

He listened with an unmoved countenance

— but with evident interest to all — but when I related a experiment that at first sight seems unimportant — I was startled at the sudden interest manifested.

I told him that on passing an intermittent current of electricity — through an empty helix of insulated copper wires a noise could be heard proceeding from the coil — similar to that heard from the telephone.

He started up — said "Is that so?" Will you allow me Mr. Bell to repeat your experiments and publish them to the world through the Smithsonian Institute — of course giving you the credit of the discovery."

I said it would give me extreme pleasure — and added that I had apparatus in Washington — and could show him the experiments myself at any time.

He asked if I could do it there if he went with me — and I told him that I had everything in readiness at Mr. Hubbard's house.

He said "I will go with you now. Have you a carriage here?" I had not — and as he put on his coat and was about to ~~take~~ ~~his~~ carriage — when I offered to save him the trouble of going out on such a raw damp day by bringing

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the apparatus to the Smithsonian Institute. (He was suffering from a cold - and besides is very aged - I believe about 80 years old.)

We appointed noon next day for the experiment.

I set the instrument working and he sat at a table for a long time with the empty coil of wire against his ear listening to the sound.

I felt so much encouraged by his interest - that I determined to ask his advice about the apparatus I have designed for the transmission of the human voice by telegraph. I explained the idea and said "What <sup>would</sup> you advise me to do - ~~to~~ publish it and let others work it out - or attempt to solve the problem myself?"

~~He said~~ He said he thought it was "the germ of a great invention" - and advised me to work at it myself instead of publishing.

I said that I recognized the fact that there were mechanical difficulties in the way that rendered the plan impracticable at the present time. I added that I felt that I had not the electrical knowledge necessary ~~to~~ to overcome the difficulties. His laconic answer was - "Get it".

A.M.B.

\* I cannot tell <sup>you</sup> how much these two words  
 have encouraged me. I live too much in  
 an atmosphere of discouragement for scientific  
 pursuits. Good Mr Sanders is unfortunately  
 one of the curi bono people — and is  
 too much in the habit of looking at the  
 dark side of things. Such a chimerical  
 idea as telegraphing vocal sounds would  
 indeed to most minds seem scarcely feasible  
 enough to spend time in working over.

I believe however that it is feasible,  
 and that I have got the cue to the  
 solution of the problem.

Prof. Huxy seemed to be much  
 interested in what I told him — and cross-  
 questioned me about my past life — and  
 specially wanted to know where I had studied  
 Physics. He told me that Mr Gray  
 had been to see him when he first ~~took~~ took steps  
 to obtain a patent — and that he (Prof. Huxy)  
 had given him a letter of introduction to Prof. Tyndall.

He added that Gray was by no means a  
 scientific man. ~~He said~~ As I was leaving  
 he said "If I can be of any assistance to you  
 in the Patent Office — I shall be very happy  
 to do anything in my power".

My visit to the Smithsonian Institute  
 seems to me to be the brightest spot in my whole  
 life. I feel now that I am accepted by scientific men — as one of the theaters.



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Having left Prof. Heng and Washington —  
I proceeded to New York where I saw  
W. Arton and W. Prescott the Electricians —  
Arrangements were made for me to bring my  
instruments to New York and experiment on  
a real line - wire.

I left Boston last Sunday and called  
at the office of the Western Union on Monday.  
W. Arton and W. Prescott both devoted  
a large portion of their time in discussing with  
me the whole plan from its theoretical point  
of view. Mr. Smith — the manager of the experimental  
room was absent from town but was telegraphed  
for. He replied that he could not come till  
next morning. Tuesday forenoon we had  
Batteries connected — and I tuned up my  
instruments. They went like clock - work.  
I have come to the conclusion — that by a  
happy chance they are much more perfect  
than I thought at first.

The signals are as clear, sharp, and rapid as  
with the ordinary Morse sounds. I connected  
Two Transmitters and Two Receivers on only  
one line — and two messages were sent  
simultaneously. We had 100 cells of a  
battery — and all went well on our artificial  
circuit. W. Prescott then said he would like  
to see them tried on a real line - wire. He  
telegraphed to Philadelphia to have two wires

crossed there so as to give us (practically)  
a continuous wire from New York to Philadelphia  
and back.

The <sup>detec-</sup>magnets I employed were  
not intended for trial on a long line —  
They were wound with coarse wire — and  
the "resistance" was only "3 ohms". Ordinary  
electro-magnets for actual service on a line have  
a resistance of about 200 to 600 ohms.

None of us therefore expected the instruments  
to work without stronger magnets.

But they did work. The signals, though  
feeble, came sharply and coarsely through the  
200 miles of line-wire!!! I suggested trying  
stronger magnets — so Mr. Prescott ordered the  
instruments to be taken to the work shop — and  
stronger magnets placed on them. They  
were to be ready in the afternoon ~~at~~ so I  
went out to dinner — and returned in a couple  
of hours.

Rest will form subject for next  
letter.

With fond love

Your ever affectionate Son  
Alex

Prof. A. M. Bell  
Brantford, Ontario.

AmB.

CURATOR NOTE

The handwritten marginal notation "July 9, 1879" on some pages of this 1875 letter indicate that this letter was entered into evidence in the (Peter) Dowd Case which ran from late 1879 to November 1879. The "WPP" initialed by the date stands for W. P. Preble, the examiner.

This information was given to me by A. Edward Evenson of Rolling Meadows, IL, a researcher who used the Bell Papers during May 1996.

Leonard C. Bruno  
Science Manuscript Historian

LCB 5/22/96