I find that iron gives the greatest number of scints and sodium the least. This appears to correspond to the lines in the spectrum iron having the greatest number and sodium the least, of the metals I have tried. Do you think this is worth investigating?

Yours

Thos. A. Edison

ALS, NN, HD.

1. That is, the photograph of spectra in Draper’s article (see Doc. 989, n. 4).
2. Figure labels are “platina” and “aluminium.”
3. This refers to the number of known lines in the spectra of various metallic elements. See, e.g., Roscoe 1870, 134ff, Plate I; and Schellen 1872, 102.

From Edward Johnson

The second concert was, as you will see by paper sent you today, more successful in the character of the music produced than was the first—but in point of numbers in attendance it was not so good. There were only about 2000 present—This was no doubt owing to the strike and to the fact that it rained steadily throughout the day until near the time for the concert—but it was too late then for many to come out.

I had the piano attachment made in the centre of the Inst. just inside the frame in front of Key Board—and it worked tip top—giving especially good volume & tone when the Pedal was pressed down thus leaving the strings free to vibrate—Nevertheless notwithstanding &c &c I am inclined to believe that the marked improvement was due to the better performance of that last Diaphragm you sent me. It beats all the others hollow—By the way— I could do nothing with the Mica. Its too stiff— The copper are the best though requiring very frequent readjustment—I had a happy thought yesterday morning— of course I was stupid not to have had it earlier— it would have saved me a heap of labor & have improved my performances wonderfully. It is this. Have a 2nd receiving Inst. made— Set it up in short circuit at Transmitting End & Let the operator adjust for each voice & each tune—then immediately switch into main ckt—say 77 & grind it out—thus obviating all necessity for adjusting from the Public end— & enabling me to have an adjustment exactly suited to each
tune & voice— Having 2 Instruments you see one can be adjusted while the Other is singing—I am having one a second crank & bar made, which I propose to attach to the Instrument which I will today buy for you, & use that outfit instead of the Piano— & use the old one for adjusting by—I am also having the plain copper Diaphragm made like the last one you sent me though I must make some improvement in the felt holding arrangement. It nearly played the D—with me the Eve. of the concert. The felt dropped out on the first piece & It took them nearly 3/4 hour to get it back so that it would stay. B.F. finally accomplished it by running a pin through it and fastening the head of the pin to side of Diaphragm ring with sealing wax Strange as it may seem it seemed to work all right, though I told him it wouldn’t work at all—I find the Brass Diaphragms best for Cornet—I suppose the vibrations are too positive for the more delicate copperfoil But for the voice the copper cushioned one you last sent is just Red Hot I cannot do anything on Duet however until I get the other one fixed.

The exhibition Co are in a peck of trouble & have made a strong appeal to the Pride of the Philadelphians for support. They ask for $50,000 & say unless they get it they must close the thing up on 1st Sept. & are even talking about taking it to New York where it would pay. Meanwhile the management are so harrassed they don’t know what to do and told me yesterday they couldn’t decide at present about a third concert—wanted to know what the prospect was of getting the Talkers I told them you were experimenting upon & constantly improving the talking Outfit but that I would write you immediately & see what the prospect was.

Meantime I am going down to Cape May & give a concert on my own a/c. Reed the journalist who does the Blowing for the Ex. Co. & who got all those Puffs inserted in the Philada papers is going with me as Manager advertising agent &c & we divide the profits. Our Expenses—including a W.U. wire from here will be about 100$. We propose to charge 50c admission— Will get the Stockton House Dining Room which holds about 1200— We calculate upon 500 sure— We may get 1000 as there are 10 000 sojourners there & a thing of this kind is such a great novelty & had been so fully advertized by the Philada Papers that we think by ad. a few days in advance & Reid prevailing on the Cape May papers to reprint the “Press” article on the day of the concert.
that we will make a hit—in which case I will follow it up, in quick succession from one resort to another—and then I'll divide with Batch & Charlie & perhaps have a nest egg for you. If it takes poorly at Cape May I'll return to the Exhibition at once & not risk a failure Elsewhere—

It will be conducted in a high toned manner throughout—The Stockton is the leading House at Cape May—

Next Wednesday Evening is the day fixed—

What do you think about the 80 miles of wire—is it going to reduce me in Volume very much—if so advise me quick—I can get 400 cells callaud but no carbon—

If I am successful in this tour need I apprehend any annoyance from Caldwell? Write me instantly on receipt of this else I shall be off to the shore. The W.U. ask me 30$ for use of the wire but I think when I see Jim Merrihew I can get him to make a reduction—as that is all they charged Gray with his cumbersome apparatus.10

Green11 of the Exhibition Co did the speechifying the other night & told the audience what you proposed to do in the way of recording speech—I am sorry it is not a little later in the season so that Barker & some more of the Scientific Cusses could be here. Truly

E H Johnson

ALS, NjWOE, DF (TAEM 14:846).

1. Not found. A report of the second telephone concert, held on 1 August, appeared the following day in the Public Ledger (p. 1). Johnson collected a number of newspaper articles about his concerts as “Testimonials” in his Telephone Handbook (Johnson 1877; in DF [TAEM 162:1042–45]).

2. Benjamin F. Johnson.

3. The U.S. Supreme Court, in a ruling on the Centennial Appropriation by Congress of $1,500,000, deprived the management of $300,000 of their estimated capital. The management of the Permanent Exhibition sought donations from the citizens of Philadelphia to help defray their working expenses of $50,000 (Public Ledger, 1 Aug. 1877, p. 2). As of October 1877 the Permanent Exhibition Co. was $84,000 in debt. Among its several efforts to discharge this debt was a grand fête to be held on Thanksgiving (Public Ledger, 9 Oct. 1877, p. 2).

4. That is, the “talking” as opposed to the “musical” telephone.

5. Cape May is a resort town at the extreme southern tip of New Jersey, where the Delaware Bay meets the Atlantic Ocean.

6. Unidentified.

7. According to a 13 August 1877 report in the Cape May Daily Star, the Stockton “was so crowded with a fashionable audience, desirous of seeing and hearing the far-famed telephone” that the doors into the

July–September 1877
dining room had to be thrown open so that more people could enjoy the music. Cat. 1240, item 230, Batchelor (TAEM 94:69).

8. It is unclear to which Philadelphia Press article Johnson refers.

9. See Doc. 929.

10. Johnson may be referring to the New York-Philadelphia trial of Elisha Gray's harmonic telegraph in the fall of 1876. See Doc. 786 n. 4.

II. C. W. Greene was general manager of the Permanent Exhibition. Philadelphia Inquirer, 19 July 1877, p. 8.

From Henry Draper

My dear Sir

Your two letters have come safely. 2 I am very glad the speaking telephone has turned out as well as you wished for it obviates the main defect of Bell's viz; having to listen so carefully.

As to "Oxygen in Sun" what you say about the Iron lines is true and I am not yet satisfied why they slant so much. When you look at the spark which is in front of the slit 3 the iron appears as a yellow mantle or ruffle round the air spark thus, 4

while the air spark is nearly a straight line from pole to pole. 5 As to the delicate lack of coincidence that is due to the fact that it is almost impossible to avoid some flickering of the spark which changes the direction in which the light falls on the slit. 6 Still it is not enough in amount to touch the argument.

As to the value of investigation on the subject of scints the whole matter is so curious that no one can say what may not come out of it.

I hope when we get back to town you will take an early opportunity of coming to 271 Madison Avenue 7 and then you can see and use the fierce currents I get. 8 Yours truly,

Henry Draper

When I am down your way I shall certainly call in. 9

ALS, NjWOE, DF (TAEM 14:115). 4On two lines spanned by brace.

1. Draper had a country residence in this town, 20 miles (32 km) north of New York City.

Dobbs Ferry N.Y. 1 Aug 6th 1877

ALS, NjWOE, DF (TAEM 14:115). 4On two lines spanned by brace.

1. Draper had a country residence in this town, 20 miles (32 km) north of New York City.