26/5

4 Windsor Terrace, Malahide, I4 Sept. 1894.

Dear Professor Fitzgerald,

The only account I had seen of the spectrum of the new gas was a statement in a non-scientific newspaper that the spectrum showed only a single line in, I think, the blue. This I thought could hardly be reconciled with the supposition that the gas was allotropic nitrogen. But what you told me today puts quite a different complexion on it. I suppose the statement in the newspaper was a theoretidal deduction from the actually observed facts. One line was thought to be brighter than a line in the same place in the nitrogen spectrum, and the others were attributed to an impurity of nitrogen. If we call the new gas x, the system of lines might be accounted for in three ways, (I) as due to an impurity of nitrogen not wholly eliminated, (2) as due to the new gas and falsely attributed to nitrogen, the nitrogen from which the spectrum was drawn having been got from atmospheric air, (3) as due to nitrogen resulting from the decomposition, by the electric discharge, of x.

I have written to Crookes to ask how the nitrogen he used for the spectrum he photographed was prepared.

The density of oxygen being I6, it is probable that that of ozone is 24, though it has not yet been ascertained, oxygen being O_2 and ozone O_3. So nitrogen being N_2, x if it be allotropic nitrogen might very probably be N_3, and its density 2I.

Yours very truly,

G G. Stokes

G.