

39 Waterloo Road,

March, 23rd, -97.

Mr. Prevost and Gentlemen,

The Vice Chancellor of Oxford having intimated to Dr. Sollas, that he has been elected to the Chair of Geology in the University of Oxford, I beg to offer myself as a candidate for the Chair of Geology & Mineralogy in the University of Dublin, on its becoming vacant.

I graduated as first Respondent in 1883. Previously ( 1882 ) I obtained at the examination for Licence in Civil Engineering first place, taking Special Certificates in all subjects for which these distinctions are granted; among which were Geology ( including Paleontology ), Mining, Chemistry, and Mineralogy.

On obtaining my Licence I was selected by Professor Crawford to fill the post of assistant in the School of Engineering. In what leisure remained over from my duties I carried out, during the ensuing eight or nine years, various researches in Geology, Mineralogy and Petrology, as will be seen by the accompanying short analysis of my works.

3/24  
In 1891 I was appointed to assist Professor FitzGerald in the Physical Laboratory. This appointment necessarily involved mere exclusive attention on my part to Experimental Physics, and much of my recent Geological and Petrological work, completed or begun, has had to remain unpublished and or unfinished. But it will be sufficiently evident from my published papers that I at no time severed my interest with Geological, Mineralogical, Petrological and Biological work. My latest paper, that advancing a physical explanation for the so-called "Canals" of Mars, being a contribution to the physics of a Planet's crust.

In 1887 the Board granted me the Degree of M.A. stip. con., and in 1891 the Degree of D.Sc. stip. con.

In 1891 I was proposed for election into the Royal Society of London. My work was up to that date for the greater part Geological, Petrographical and Mineralogical. I was elected to Fellowship the ensuing year.

I have lectured in public more than once upon subjects which I will be called upon to teach should you appoint me to the Chair. This necessarily finds no record here. In the unavoidable absence of Professor Sollas I have examined in his stead, both students for the Arts Degree examination and for the Licence and Middle-class courses in Engineering.

After discharging the duties of my post, it would be my earnest endeavour to advance research along the lines where Physics and Geology, Physics and Petrology, Physics and Mineralogy, meet; and to inspire my pupils to follow me. In some respects the

resources of the Physical Laboratory of Trinity College are second to none in the world. In the union of Physics with the branches of Science enumerated, I believe a fruitful advance is assured. On the other hand the mere work of record and classification in these branches of Scienc is well advanced and may be pushed further under opportunities less rare and less precious than those which will present themselves to the Professor of Geology and Mineralogy in the University of Dublin.

I have the honor to be  
Mr. Provost and Gentlemen,  
Your obedient servant

J. Joly.

3/24

Proceedings Royal Dublin Society, 1884.

On the Volcanic Ash from Krakatoa.

One of the earliest, if not the earliest complete British report upon the Mineralogical nature of the Ash. Quoted in Krakatoa Committee Report of Royal Society.

Proc. R.D.S 1885.

On the Beryl and Iolite of Glencullen.

The identification of Iolite for the first time in the Granites of Leinster, and as an authentic Irish mineral. Description of a new mineral, not hitherto described, a Beryl-felspar pegmatite. First application of a new method of physical analysis of rocks and identification of minerals by Specific Heats. Estimate of the maximum temperature in the past ~~since~~ of the Leinster Granite since the formation of Beryl, by the colour changes of the latter.

3/24

Proc. R.D.S., 1886, and Philosophical Magazine 1888.

Method of Determining the Specific Gravity of very minute quantities of Dense or Porous Minerals.

Proc. R.D.S., 1886.

On the Permanency of Frost Marks and possible connection with Oldhamia radiata, and Oldhamia antiqua

Proc. R.D.S., 1886.

On the Occurrence of Harmotome at Glendalough, Co. Wicklow.

Proc. R.D.S., 1886.

On a Peculiarity in the nature of the Impressions of Oldhamia antiqua and O. Radiata.

Discovery of the positive and negative relief of these marks in the Slates of Bray-head.

Proc. Royal Society of London. 1886.

On the Method of Condensation in Calorimetry.

Account of a new instrument invented for determining with great accuracy the Specific Heats of rocks and minerals. This instrument is now in use in many European laboratories.

Proc. Royal Soc. London. 1886.

On the Specific Heats of Minerals and Rocks.

Determination by means of my Steam Calorimeter of the Specific Heats of over 70 minerals and rocks and some Aerolites. Principles of application of the new method to Mineralogy and Petrology. Discovery of thermally-distinct varieties of Beryl, Barities, Galena, etc. in specimens identical in crystalline form and

chemical composition. Discovery of an unexplained numerical relation between the Specific Heats of the ~~minerals~~ thermally-distinct mineral Sulphides.

This work has since been continued by Mr. T.H. Hunt, Sen. Med. and myself, but remains unpublished.

Proc. Royal Soc. London. 1888.

On the Steam Calorimeter.

Improvements rendering it more available to those unaccustomed to manipulation.

Proc. R.D.S., 1888.

Formation of Crystals of Calcium Oxide and Magnesium Oxide in the Oxyhydrogen ~~fire~~ Flame.

The first direct formation of these crystals.

Nature, 1886.

The Mineralogical Nature of the Volcanic Ash of Tarawera, New Zealand.

Proc. R.D.S., 1890.

The Abundance of Life.

A Biological paper seeking to determine the physical laws underlying the multiplication of the Organism.

Proc. Royal Irish Academy, 1891.

On the Determination of the Melting Points of Minerals by means of the Meldometer.

Description and application of a new instrument whereby the melting point of a minute fragment of a mineral may be accurately determined up to 1770 C. A new method of carrying out the reactions of Pyro-chemistry at known temperatures, with greater ease ~~and~~, certainty and delicacy than by the use of the blow-pipe. Analysis by means of pure sublimates.

This instrument is now in use in several European and Colonial ~~the~~ laboratories.

The determination of Melting Points is continued by Mr. R. Cusack and will appear in a forthcoming number of the Proc. R.I.A.

Chemical News, Jan. 1892.

Republication of the foregoing paper at the request of Professor Crooks.

Journal of the Royal Microscopical Society, Vol.VI.

Method of Manipulating Minute Bodies ( Crystals ) in Canada Balsam.

Nature, 1890.

A Resonance Method of Measuring the Constant of

3 | 24

Gravitation.

Exhibited before the Royal Society of London. 1892.

3/24

Method of Determining the Volume-change of Rocks  
at High Temperatures and upon Fusion.

For the first time a containing vessel for the melted rock is dispensed with, and the errors attendant upon its use, as well as upon the use of large masses of material, avoided. Curves showing the volume-change of melting Augite, Basalt, and Orthoclase, etc were exhibited. Also the thermal expansion of Diamond up to 750° C. Except for notice in the Royal Society's Catalogue this work is for the most part unpublished.

Proc. R.D.S., 1893.

On the Bright Colour of Alpine Flowers.

Nature, 1894.

The Thermal Expansion of Diamond and its Mode of  
Origin. ~~xxxxxxmxxmxmxmxmxmxmxmxmxmxmxmx~~

Transactions of the Royal Society of London. 1895.

On the Ascent of Sap. Jointly with Mr. H.H. Dixon.

Solution of the long standing problem as to  
how the sap is elevated in tall trees.

Annals of Botany. Sept. 1895.

On the Path of the Transpiration Current. Jointly  
with Mr. H.H. Dixon.

Annals of Botany, Dec. 1895.

Report of a Discussion at the British Association  
on the Ascent of Sap.

Communicated to the Royal Dublin Soc. Dec. & Jan. 1896-97.

On the Physical Origin of the "Canals" of Mars.

In addition to the above the following are incomplete or  
merely await publication.

Orientation of Porphyritic Crystals in Grahites, etc. as in-  
dicating their movement under gravity in a viscous Medium.  
Experimental investigation into the crystalline changes in  
~~xxxxxxmxxm~~ Lavas, attendant on conditions of prolonged  
high pressure and temperature.

The Thermal Conductivity of rocks by a new method at various  
temperatures.

A new optical peculiarity of Anatase. ( Exhibited at Conver-  
sazione of R.D.S. March, 1897.)

The foregoing analysis refers exclusively to papers and  
work relating to Geology, Petrology & Mineralogy, including  
Biology as being related to the subject of Paleontology.