

MS 63

**RAYLEIGH, JOHN WILLIAM STRUTT, THIRD BARON
AND
RAYLEIGH, ROBERT JOHN STRUTT, FOURTH BARON**

Linear ft.: 33

Approx. no. pgs.: 40,000

Collection Date: 1864-1944

BIOGRAPHICAL SKETCH

John William Strutt, Third Baron Rayleigh.

Lord Rayleigh, English physicist, who discovered argon, the first rare atmospheric gas, was born in Terling, Essex, 12 Nov 1842, and died in Witham, Essex, 30 Jun 1919.

John William Strutt, or Lord Rayleigh as he is commonly known, was the son of the 2nd Baron Rayleigh and so inherited his title as 3rd Baron. He attended Cambridge University, and in 1879 he became professor of experimental physics there and director of its Cavendish Laboratory until 1884. From 1887-1905 he was a professor of natural philosophy at the Royal Institution. In 1873 he was elected to the Royal Society and was its president from 1905-1908. In 1902 he was an original recipient of the Order of Merit.

Rayleigh combined a knowledge of mathematical analysis with a lifetime of work in physics and chemistry. He experimented with wave motion of all kinds, and confirmed the Irish physicist John Tyndall's view that the sky's blue color results from the scattering of sunlight by air molecules and to some extent by particles in the atmosphere. (The belief current at the time was the oxygen in the atmosphere caused its blueness.) He also studied sound waves, water waves, and earthquake waves. He was responsible for the precise measure of the ohm for use as an international electrical unit. Rayleigh wanted to determine more accurately the densities of gases to show that atomic weights were not multiples of hydrogen as Prout had theorized long before. This theory had been discounted by others many times, but Rayleigh wanted to try it himself. He determined the ratio of oxygen and hydrogen to be precisely 15.882:1. As he worked on oxygen, he found that its density was always exactly the same. However, when he studied the nitrogen he obtained from air, it showed a slightly higher density than the nitrogen he obtained from chemical compounds. He worked on this problem with the Scottish chemist, Sir William Ramsay. The men finally found a new gas in the atmosphere, the first rare inert gas (somewhat denser than nitrogen), which they named argon. Rayleigh won the 1904 Nobel Prize in physics and Ramsay the Nobel Prize in chemistry for this discovery.

Rayleigh's discovery of the rare gas argon added another element to Mendeleev's Periodic Table. During the four years following the discovery of argon, four other inert gases, helium, krypton,

neon, and xenon, were discovered by other scientists. These inert gases would be of great theoretical importance to future work on atomic weights and isotopes.

Robert John Strutt, Fourth Baron Rayleigh

The 4th Baron Rayleigh was born on 28 Aug 1875 and died, 13 Dec 1947. Although his work is largely overshadowed by that of his father, Robert Strutt was an accomplished physicist who studied many aspects of science and published many of his own scientific papers. Some of the topics he researched and experimented on include: gas phenomena, nitrogen, electric discharge, the sky, emission bands of the mercury spectrum, and light scattering. His work on this last area led to what is now referred to as Rayleigh Scattering.

The notebooks of both John William Strutt and Robert John Strutt were acquired by the Air Force Cambridge Research Laboratory Library (AFCRL), mostly by purchase in 1963, although some materials were given to John N. Howard by the Strutt family. AFCRL was interested in the Robert John Strutt notebooks because of their useful data on early sky brightness, used in a study by scientists, Sam Silverman and Hernandez Gonzales. Subsequently, the discovery of notebooks from John William Strutt led to several publications and many presentations by Dr. Howard, the curator of the collections. The collections were transferred to the US Air Force Academy, McDermott Library, in 2008.

SCOPE AND CONTENT NOTE

This manuscript record consists of forty-two boxes and other materials pertaining to the professional career of John William Strutt, Third Baron Rayleigh and his son Robert John Strutt, Fourth Baron Rayleigh. The materials are arranged into ten series.

SERIES ONE: EXPERIMENTAL NOTEBOOKS OF THIRD BARON RAYLEIGH, consists of the complete collection of John William Strutt's experimental notebooks, which contain his notes and calculations that pertain to his scientific papers and other topics he researched. The collection includes the twelve original notebooks and one additional notebook written by E.M. Sidgwick along with a set of bound notebooks which are replicas of the originals, (microfilm copies available).

SERIES TWO: MANUSCRIPTS OF THIRD BARON RAYLEIGH'S PUBLISHED SCIENTIFIC PAPERS, consists of the scientific papers written by John William Strutt, regarding various topics he researched over his lifetime. Many of these manuscripts are originals and are written on the backs of scrap pieces of paper, which was a common practice of Lord Rayleigh. Most of the titles were matched from a listing created by Baron Rayleigh, published by the Cambridge University Press, and contributed on-line from the University of California Libraries at <http://www.archive.org/details/scientificpapers02rayliala>, (some microfilm copies available).

SERIES THREE: ROUGH NOTES AND CALCULATIONS OF THIRD BARON RAYLEIGH, consists of notes, calculations, and other scratch-work that pertains to the many

scientific papers written by John William Strutt. These rough notes have been organized according to the paper they are believed to correspond with. These notes are also mostly written on the back of scrap paper, (some microfilm copies available).

SERIES FOUR: SCIENTIFIC CORRESPONDENCE OF THIRD BARON RAYLEIGH, consists of letters, almost all of which are copies of the originals, written to and from Lord Rayleigh. Some are letters of common correspondence, regarding meetings and appointments, others are letters regarding scientific and/or mathematical topics and they contain sketches and formulas, (microfilm copies available).

SERIES FIVE: ARGON CORRESPONDENCE, consists of letters written between Lord Ramsay and Lord Rayleigh regarding their research and discovery of argon. Other letters are from other scientists or associates of Rayleigh. Most of these are letters of congratulations for Rayleigh's discovery, (only microfilm copies available for Ramsay-Rayleigh correspondence (no paper copies), some microfilm copies for other correspondence).

SERIES SIX: MISCELLANEOUS MANUSCRIPTS, consists of various notes and calculations from Lord Rayleigh which were not published. Many are lecture notes from his lectures at Cambridge and the Royal Institution. Others are notes that Lord Rayleigh made from various books written by different authors. And others are simply unpublished notes about various topics, some of which have not been identified and therefore filed according to the year they were written, (some microfilm copies).

SERIES SEVEN: EXPERIMENTAL NOTEBOOKS OF THE FOURTH BARON RAYLEIGH, consists of the complete collection of Robert John Strutt's experimental notebooks which contain his notes and calculations that pertain to his scientific papers and other topics he researched. The collection includes the twenty-two original notebooks along with a set of bound notebooks which are replicas of the originals, (microfilm copies available).

SERIES EIGHT: MANUSCRIPTS OF FOURTH BARON RAYLEIGH'S PUBLISHED SCIENTIFIC PAPERS, consists of the scientific papers written by Robert John Strutt, regarding various topics he researched over his lifetime. Most of these are copies of the original published works, (some microfilm copies available).

SERIES NINE: PUBLICATIONS BY OR ABOUT THE FOURTH BARON RAYLEIGH, consists of summaries and abstracts of the scientific writings of Robert John Strutt, Fourth Baron Rayleigh, and the biography of the Third Baron Rayleigh written by the Fourth Baron Rayleigh.

SERIES TEN: MANUSCRIPTS ABOUT THE COLLECTION, consists of letters and papers, most of which were written by or to John Howard, regarding the Rayleigh Collection or are papers that describe the collection and the dedication ceremony. Also included in this series are miscellaneous letters and papers which could not be placed with other series as well as photographs of John William Strutt, Robert John Strutt, other members of the Strutt family, the Strutt property, some of the manuscripts of the collection, and the dedication ceremony for the collection at the Air Force Cambridge Research Laboratories.

ARRANGEMENT AND DESCRIPTION

**SERIES ONE THE EXPERIMENTAL NOTEBOOKS OF THIRD BARON
RAYLEIGH**

(Microfilm copies in Box One.)

(Blue notebooks bound in individual blue boxes.)

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|--------|--|
| Book 1 | No. 1 Algebra, Trigonometry, and Elementary Geometry, Statics:

Notes on mathematics, theory of probability, and statics, 80 pgs. |
| Book 2 | No. 2 Hydrostatics and Hydrodynamics, Differential Equations,
Geometrical Optics:

Class notes and notes from journal articles, 110 pgs. |
| Book 3 | No. 3 Stokes Lectures, 1864:

Notes of approximately thirty lectures of Stokes on optics,
fluorescence, Maxwell's theory of color perception, 64 pgs. |
| Book 4 | No. 4 Experimental notebook, 1869-1870, Electricity and Acoustics:

Notes on decay time of electrical current, magnetization of steel
needles, sparks, Applied Maxwell's method to find time constant of
magnetic coils, observations of resonance in flasks, 104 pgs. |
| Book 5 | No. 5 Experimental notebook, 1870-1878:

Notes on testing color vision, comparing direct sunlight with the
light of the zenith blue sky, magnetism, production of diffraction
gratings, acoustics, resonators, organ pipes, gratings, Herschel's
hot spots, a color mixing apparatus, 122 pgs. |
| Book 6 | No. 6 Electromagnetism, Hydraulic Experiments, General Experiments,
1878-1889:

Notes on prepared lectures on induced currents and magnetism;
jets from a gradually contracting nozzle; steam experiments; sound
from jets of air, wire and string telephone; focal lines of lenses
held obliquely; organ pipes and sensitive flame; Aeolian string,
bells, chain jets; resolving power; Rayleigh prism; aberration
studies; scintillation of stars; oblique aberration of lenses; water
jets; color box for yellow; fatigue of ear to high pitched notes;
telephone; condensation of aqueous vapors; bird calls;
magnetization; vision in dim light; Clark cells; polarimetry; |

accuracy obtainable in focusing; distillation of water; super-saturation; studies on bells, 326 pgs.

- Book 7 No. 7 Thermodynamics:
 Notes used in Rayleigh's lectures on thermodynamics, 53 pgs.
- Book 8 No. 8 Experimental notebook, 1890-Jul 1901:
 Notes on surface tension studies, pinhole images, reflection of light at polarizing angle from clean and greasy surface of water, telephone experiments, soap bubbles, reflection from fresh tap water, kite, reflection at nearly perpendicular incidence, observations on high interference using the parallel plate obtained by a layer of water on Hg., transmission of light through ground glass, polishing of glass, Dulong and Petit experiment and blackbody radiation from surfaces, acoustics, argon first mentioned by name, sketch of Rayleigh manometer, studies on various elements, diffraction, Fraunhofer lines, Michelson applications and apparatus, 278 pgs.
- Book 9 No. 9 Experimental notebook, 1901-1913:
 Notes on electric sparks, fog horns, sunlight in fog, artificial fogs, studies of gases, shadows of sound of organ pipes, electric whistles, echelons, Fabry-Perot studies, interference of thin plates, acoustic resonance, direction of sound, sounds of flames, telephone studies, probability of cards in game of bridge, construction of acousticon, color box for violet, reflectivity of diamond, Fabry-Perot bending of plates, Newton's rings, grating studies, water jets, expanding tubes, grating of needles cast in paraffin block, blue of sky, breath figures, iridescence of films, polish, prisms at polarizing angle, 264 pgs.
- Book 10 No. 10 Last:
 Notes on reflection of minerals, properties of crystals, obstructions in pipes, jets of water, interference of crystalline plates, comments on balloon experiment by Brewer, Aeolian harp, interference bands of layer of liquid over mercury, acoustics, gas studies, winds, Talbot's experiment, diffuse reflectance, colors of beetles, Michelson studies, colors of feathers, eye of peacock's tail, Wood's collodion speculum studies, grating by interference, gratings, winds in winter, damp cold, sunstroke and heat stroke, snow blindness, ironing clothes to make them flat, 103 pgs.
- Book 11 No. 11 Constants of Apparatus:

Certificates of thermometer calibration, volumes of flasks; values of condensers, self-induction coils, Topley pump; resistances as measured by Mrs. Sidgwick and Glazebrook, 24 pgs. of text and 24 loose sheets.

Book 12 No. 12 List of Lord Rayleigh's Papers and Notes of to Whom They Were Sent.

Book 13 The E.M. Sidgwick Notebook:

Experimental notes, Apr 1880-Mar 1881; notes on repeating the experiment of W.W.S. Jevons on the formation of cirrus clouds, effects of viscosity on jets, colliding jets, dust on soap bubbles, mercury jets, jets of treacle (golden syrup), 40 pgs.

SERIES TWO MANUSCRIPTS OF THIRD BARON RAYLEIGH'S PUBLISHED SCIENTIFIC PAPERS

(Microfilm copies in Box Eight.)

BOX TWO

A partial collection of the original four hundred forty-six published papers of Lord Rayleigh (J.W.S.)

- Folder 0A Manuscript #1, "Photography: Its History, Position, and Prospects," (1865).
- Folder 1 Manuscript #8, "On the Light from the Sky, Its Polarization and Colour," (1871), (original bound copy).
- Folder 2 Manuscript #45.
- Folder 3 Manuscript #74, "On the Electromagnetic Theory of Light," (1881).
- Folder 4 Manuscript #108, "On the Circulation of Air Observed in Kundt's Tubes, and on Some Allied Acoustical Problems, (1883).
- Folder 5 Manuscript #151, "Is the Velocity of Light in an Electrolytic Liquid Influenced by an Electric Current in the Direction of Propagation?" (1888).
- Folder 6 Manuscript #199, "On the Interference Bands of Approximately Homogeneous Light; in a Letter to Prof. A. Michelson," (1892).
- Folder 7 Manuscript #203, "On the Theory of Stellar Scintillation," (1893).
- Folder 8 Manuscript #208, "On the Flow of Viscous Liquids, Especially in Two Dimensions," (1893).

- Folder 9 Manuscript #211, "On the Minimum Current Audible in the Telephone," (1894).
- Folder 10 Manuscript #212, "An Attempt at a Quantitative Theory of the Telephone," (1894).
- Folder 11 Manuscript #213, "On the Amplitude of Aerial Waves Which Are But Just Audible," (1894).
- Folder 12 Manuscript #214, "Argon, a New Constituent of the Atmosphere," (1895).
- Folder 13 Manuscript #216, "On the Stability or Instability of Certain Fluid Motions," (1895).
- Folder 14 Manuscript #217, "On the Propagation of Waves upon the Plane Surface Separating Two Portions of Fluid of Different Vorticities," (1895).
- Folder 15 Manuscript #223, "Theoretical Considerations Respecting the Separation of Gases by Diffusion and Similar Processes," (1896).
- Folder 16 Manuscript #224, "The Theory of Solutions," (1897).
- Folder 17 Manuscript #225, "Observations on the Oxidation of Nitrogen Gas," (1897).
- Folder 18 Manuscript #227, "On the Passage of Waves through Apertures in Plane Screens, and Allied Problems," (1897).
- Folder 19 Manuscript #228, "The Limits of Audition," (1897).
- Folder 20 Manuscript #229, "On the Measurement of Alternate Currents by Means of an Obliquely Situated Galvanometer Needle, with a Method of Determining the Angle of Lag," (1897).
- Folder 21 Manuscript #230, "On the Incidence of Aerial and Electric Waves upon Small Obstacles in the Form of Ellipsoids or Elliptic Cylinders, and on the Passage of Electric Waves through a Circular Aperture in a Conducting Screen," (1897).
- Folder 22 Manuscript #231, "On the Propagation of Electric Waves along Cylindrical Conductors of any Section," (1897).
- Folder 23 Manuscript #233, "On an Optical Device for the Intensification of Photographic Pictures," (1897).
- Folder 24 Manuscript #238, "Note on the Pressure of Radiation, Showing an Apparent Failure of the Usual Electromagnetic Equations," (1896).
- Folder 25 Manuscript #239, "Some Experiments with the Telephone," (1898).
- Folder 26 Manuscript #242, "On Isa-periodic Systems," (1898).

- Folder 27 Manuscript #243, "On James Bernoulli's Theorem in Probabilities," (1899).
- Folder 28 Manuscript #246, "Transparency and Opacity," (1899).
- Folder 29 Manuscript #247, "On the Transmission of Light through an Atmosphere Containing Small Particles in Suspension, and on the Origin of the Blue of the Sky," (1899).
- Folder 30 Manuscript #249, "On the Calculation of the Frequency of Vibration of a System in Its Gravest Mode, with an Example from Hydrodynamics," (1899).

BOX THREE

- Folder 1 Manuscript #251, "Investigations in Capillarity," (1899).
- Folder 2 Manuscript #252, "The Mutual Induction of Coaxial Helices," (1899).
- Folder 3 Manuscript #257, "The Mechanical Principles of Flight," (1900).
- Folder 4 Manuscript #260, "Remarks upon the Law of Complete Radiation," (1900).
- Folder 5 Manuscript #261, "On the Approximately Simple Waves," (1900).
- Folder 6 Manuscript #262, "On a Theorem Analogous to the Virial Theorem," (1900).
- Folder 7 Manuscript #263, "On Balfour Stewart's Theory of the Connexion between Radiation and Absorption," (1901).
- Folder 8 Manuscript #264, "Spectroscopic Notes Concerning the Gases of the Atmosphere," (1901).
- Folder 9 Manuscript #265, "On the Stresses in Solid Bodies Due to Unequal Heating, and on the Double Refraction Resulting therefrom," (1901).
- Folder 10 Manuscript #267, "On a Problem Relating to the Propagation of Sound between Parallel Walls," (1901).
- Folder 11 Manuscript #268, "Polish," (1901).
- Folder 12 Manuscript #270, "Acoustical Notes," (1901).
- Folder 13 Manuscript #272, "On the Induction-Coil," (1901).
- Folder 14 Manuscript #273, "Interference of Sound," (1902).
- Folder 15 Manuscript #274, "Some General Theorems Concerning Forced Vibrations and Resonance," (1902).

- Folder 16 Manuscript #276, "On the Pressure of Vibrations," (1902).
- Folder 17 Manuscript #277, "On the Question of Hydrogen in the Atmosphere," (1902).
- Folder 18 Manuscript #279, "Is Rotatory Polarization influenced by the Earth's Motion?" (1902).
- Folder 19 Manuscript #280, "Does Motion through the Aether Cause Double Refraction?" (1902).
- Folder 20 Manuscript #281, "On the Distillation of Binary Mixtures," (1902).
- Folder 21 Manuscript #282, "Note on the Theory of the Fortnightly Tide," (1903).
- Folder 22 Manuscript #283, "On the Free Vibrations of Systems Affected with Small Rotatory Terms," (1903).
- Folder 23 Manuscript #284, "On the Vibrations of a Rectangular Sheet of Rotating Liquid," (1903).
- Folder 24 Manuscript #285, "On the Spectrum of an Irregular Disturbance," (1903).
- Folder 25 Manuscript #288, "On the Proportion of Argon in the Vapour Rising from Liquid Air," (1903).
- Folder 26 Manuscript #289, "On the Theory of Optical Images, with Special Reference to the Microscope," (1903).
- Folder 27 Manuscript #290, "On the Production and Distribution of Sound," (1903).
- Folder 28 Manuscript #291, "On the Work Done by Forces Operative at One or More Points of an Elastic Solid," (1903).
- Folder 29 Manuscript #292, "On the Acoustic Shadow of a Sphere," (1904).
- Folder 30 Manuscript #296, "Note on the Application of Poisson's Formula to Discontinuous Disturbances," (1904).
- Folder 31 Manuscript #298, "On the Electrical Vibrations Associated with Thin Terminated Conducting Rods," (1904).
- Folder 32 Manuscript #299, "On the Density of Nitrous Oxide," (1904).

BOX FOUR

- Folder 1 Manuscript #301 "On the Open Organ-Pipe Problem in Two Dimensions," (1904).
- Folder 2 Manuscript #302 "Extracts from Nobel Lecture," (1904).

- Folder 3 Manuscript #303, "On the Compressibility of Gases between One Atmosphere and Half an Atmosphere of Pressure," (1905).
- Folder 4 Manuscript #304, "On the Pressure of Gases and the Equation of Virial," (1905).
- Folder 5 Manuscript #306, "An Optical Paradox," (1905).
- Folder 6 Manuscript #308, "On the Influence of Collisions and of the Motion of Molecules in the Line of Sight, upon the Constitution of a Spectrum Line," (1905).
- Folder 7 Manuscript #309, "On the Momentum and Pressure of Gaseous Vibrations, and on the Connexion with the Virial Theorem," (1905).
- Folder 8 Manuscript #310, "The Origin of the Prismatic Colours," (1905).
- Folder 9 Manuscript #311, "On the Constitution of Natural Radiation," (1906).
- Folder 10 Manuscript #312, "On an Instrument for Compounding Vibrations, with Application to the Drawing of Curves Such as Might Represent White Light," (1906).
- Folder 11 Manuscript #313, "On Electrical Vibrations and the Constitution of the Atom," (1906).
- Folder 12 Manuscript #314, "On the Production of Vibrations by Forces of Relatively Long Duration, with Application to the Theory of Collisions," (1906).
- Folder 13 Manuscript #315, "On the Dilatational Stability of the Earth," (1906).
- Folder 14 Manuscript #316, "11 Some Measurements of Wave-Lengths with a Modified Apparatus," (1906).
- Folder 15 Manuscript #317, "On the Experimental Determination of the Ratio of the Electrical Units," (1906).
- Folder 16 Manuscript #318, "On the Interference-Rings, Described by Haidinger, Observable by Means of Plates Whose Surfaces are Absolutely Parallel" {1906}.
- Folder 17 Manuscript #319, "On Our Perception of Sound Direction," (1907).
- Folder 18 Manuscript #320, "Acoustical Notes," (1907).
- Folder 19 Manuscript #321, "On the Passage of Sound through Narrow Slits," (1907).
- Folder 20 Manuscript #322, "On the Dynamical Theory of Gratings," (1907).

- Folder 21 Manuscript #323, "Note on the Remarkable Case of Diffraction Spectra Described by Prof. Wood," (1907).
- Folder 22 Manuscript #324, "On the Light Dispersed from Fine Lines Ruled upon Reflecting Surfaces or Transmitted by Very Narrow Slits," (1907).
- Folder 23 Manuscript #325, "On the Relation of the Sensitiveness of the Ear to Pitch, Investigated by a New Method," (1907).
- Folder 24 Manuscript #326, "Effect of a Prism on Newton's Rings," (1908).
- Folder 25 Manuscript #327, "Further Measurements of Wave-Lengths, and Miscellaneous Notes on Fabry and Perot's Apparatus," (1908).
- Folder 26 Manuscript #328, "On the Aberration of Sloped Lenses and on Their Adaptation to Telescopes of Unequal Magnifying Power in Perpendicular Directions," (1908).
- Folder 27 Manuscript #329, "Hamilton's Principle and the Five Aberrations of Van Seidel," (1908).

BOX FIVE

- Folder 1 Manuscript #330, "Vortices in Oscillating Liquid," (1908).
- Folder 2 Manuscript #331, "Acoustical Notes," (1908).
- Folder 3 Manuscript #332, "On Reflection from Glass at the Polarizing Angle," (1908).
- Folder 4 Manuscript #333, "Notes on Tidal Bores," (1908).
- Folder 5 Manuscript #334, "Notes Concerning Tidal Oscillations upon a Rotating Globe," (1909).
- Folder 6 Manuscript #335, "On the Instantaneous Propagation of Disturbance in a Dispersive Medium, Exemplified by Waves on Water Deep and Shallow," (1909).
- Folder 7 Manuscript #336, "On the Resistance due to Obliquely Moving Waves and Its Dependence upon the Particular Form of the Forepart of a Ship," (1909).
- Folder 8 Manuscript #337, "On the Perception of the Direction of Sound," (1909).
- Folder 9 Manuscript #338, "The Theory of Crookes's Radiometer," (1909).
- Folder 10 Manuscript #339, "To Determine the Refractivity of Gases Available Only in Minute Quantities," (1909).

- Folder 11 Manuscript #340, "Note as to the Application of the Principle of Dynamical Similarity," (1909).
- Folder 12 Manuscript #342, "Note on the Regularity of Structure of Actual Crystals," (1910).
- Folder 13 Manuscript #343, "Colours of Sea and Sky," (1910).
- Folder 14 Manuscript #344, "The Incidence of Light upon a Transparent Sphere of Dimensions Comparable with the Wave-Length," (1910).
- Folder 15 Manuscript #345, "On Colour Vision at the Ends of the Spectrum," (1910).
- Folder 16 Manuscript #346, "Aerial Plane Waves of Finite Amplitude," (1910).
- Folder 17 Manuscript #347, "Note on the Finite Vibrations of a System about a Configuration of Equilibrium," (1910).
- Folder 18 Manuscript #348, "The Problem of the Whispering Gallery," (1910).
- Folder 19 Manuscript #349, "On the Sensibility of the Eye to Variations of Wave-Length in the Yellow Region of the Spectrum," (1910).
- Folder 20 Manuscript #350, "Note on Bessel's Functions as Applied to the Vibrations of a Circular Membrane," (1911).
- Folder 21 Manuscript #351, "Hydrodynamical Notes," (1911).
- Folder 22 Manuscript #352, "On a Physical Interpretation of Schlomilch's Theorem in Bessel's Functions," (1911).
- Folder 23 Manuscript #354, "On the Motion of Solid Bodies through Viscous Liquid," (1911).
- Folder 24 Manuscript #355, "Aberration in a Dispersive Medium," (1911).
- Folder 25 Manuscript #357, "On the Calculation of Chladni's Figures for a Square Plate," (1911).
- Folder 26 Manuscript #358, "Problems in the Conduction of Heat," (1911).
- Folder 27 Manuscript #359, "On the General Problem of Photographic Reproduction, with Suggestions for Enhancing Gradation Originally Invisible," (1911).

BOX SIX

- Folder 1 Manuscript #360, "On the Propagation of Waves through a Stratified Medium, with Special Reference to the Question of Reflection," (1912).

- Folder 2 Manuscript #362, "On Departures from Fresnel's Laws of Reflection," (1912).
- Folder 3 Manuscript #364, "On the Self-Induction of Electric Currents in a Thin Anchor-Ring," (1912).
- Folder 4 Manuscript #365, "Electrical Vibrations on a Thin Anchor-Ring," (1912).
- Folder 5 Manuscript #366, "Coloured Photometry," (1912).
- Folder 6 Manuscript #367, "On Some Iridescent Films," (1912).
- Folder 7 Manuscript #368, "Breath Figures," (1912).
- Folder 8 Manuscript #369, "Remarks concerning Fourier's Theorem as Applied to Physical Problems," (1912).
- Folder 9 Manuscript #371, "The Effect of Junctions on the Propagation of Electric Waves along Conductors," (1913).
- Folder 10 Manuscript #372, "The Correction to the Length of Terminated Rods in Electrical Problems," (1913).
- Folder 11 Manuscript #373, "On Conformal Representation from a Mechanical Point of View," (1913).
- Folder 12 Manuscript #374, "On the Approximate Solution of Certain Problems Relating to the Potential," (1913).
- Folder 13 Manuscript #375, "On the Passage of Waves through Fine Slits in Thin Opaque Screens," (1913).
- Folder 14 Manuscript #376, "On the Motion of a Viscous Fluid," (1913).
- Folder 15 Manuscript #377, "On the Stability of the Laminar Motion of an Inviscid Fluid," (1913).
- Folder 16 Manuscript #378, "Reflection of Light at the Confines of a Diffusing Medium," (1913).
- Folder 17 Manuscript #379, "The Pressure of Radiation and Carnot's Principle," (1914).
- Folder 18 Manuscript #380, "Further Applications of Bessel's Functions of High Order to the Whispering Gallery and Allied Problems," (1914).
- Folder 19 Manuscript #381, "On the Diffraction of Light by Spheres of Small Relative Index," (1914).
- Folder 20 Manuscript #382, "Some Calculations in Illustration of Fourier's Theorem," (1914).

- Folder 21 Manuscript #383, "Further Calculations Concerning the Momentum of Progressive Waves," (1914).
- Folder 22 Manuscript #384, "Fluid Motions," (1914).
- Folder 23 Manuscript #385, "On the Theory of Long Waves and Bores," (1914).
- Folder 24 Manuscript #386, "The Sand-Blast," (1914).
- Folder 25 Manuscript #387, "The Equilibrium of Revolving Liquid under Capillary Force," (1914).
- Folder 26 Manuscript #388, "Further Remarks on the Stability of Viscous Fluid Motion," (1914).
- Folder 27 Manuscript #390, "Some Problems Concerning the Mutual Influence of Resonators Exposed to Primary Plane Waves," (1915).
- Folder 28 Manuscript #391, "On the Widening of Spectrum Lines," (1915).
- Folder 29 Manuscript #392, "The Principle of Similitude," (1915)
- Folder 30 Manuscript #393, "Deep Water Waves, Progressive or Stationary, to the Third Order of Approximation" (1915).
- Folder 31 Manuscript #394, "Aeolian Tones," (1915).
- Folder 32 Manuscript #395, "On the Resistance Experienced by Small Plates Exposed to a Stream of Fluid," (1915).
- Folder 33 Manuscript #396, "Hydrodynamical Problems Suggested by Pitot's Tubes," (1915)
- Folder 34 Manuscript #397, "On the Character of the "S" Sound," (1915).
- Folder 35 Manuscript #398, "On the Stability of the Simple Shearing Motion of a Viscous Incompressible Fluid," (1915).
- Folder 36 Manuscript #399, "On the Theory of the Capillary Tube," (1915).

BOX SEVEN

- Folder 1 Manuscript #401, "The Theory of the Helmholtz Resonator," (1915).
- Folder 2 Manuscript #402 "On the Propagation of Sound in Narrow Tubes of Variable Section," (1916).
- Folder 3 Manuscript #403, "On the Electrical Capacity of Approximate Spheres and Cylinders," (1916).
- Folder 4 Manuscript #404, "On Legendre's Function $P_n(\theta)$, When N is Great and θ Has Any Value," (1916).

- Folder 5 Manuscript #407, "On the Flow of Compressible Fluid Past an Obstacle," (1916).
- Folder 6 Manuscript #408, "On the Discharge of Gases under High Pressures," (1916).
- Folder 7 Manuscript #409, "On the Energy acquired by Small Resonators from Incident Waves of Like Period," (1916).
- Folder 8 Manuscript #411, "On Vibrations and Deflexions of Membranes, Bars, and Plates," (1916).
- Folder 9 Manuscript #412, "On Convection Currents in a Horizontal Layer of Fluid, When the Higher Temperature Is on the Under Side," (1916).
- Folder 10 Manuscript #413, "On the Dynamics of Revolving Fluids," (1916).
- Folder 11 Manuscript #415, "On Methods of Detecting Small Optical Retardations, and on the Theory of Foucault's Test," (1917).
- Folder 12 Manuscript #418, "The Le Chatelier-Braun Principle," (1917).
- Folder 13 Manuscript #419, "On Periodic Irrotational Waves at the Surface of Deep Water," (1917).
- Folder 14 Manuscript #421, "The Theory of Anomalous Dispersion," (1917).
- Folder 15 Manuscript #422, "On the Reflection of Light from a Regularly Stratified Medium," (1917).
- Folder 16 Manuscript #423, "On the Pressure Developed in a Liquid during the Collapse of a Spherical Cavity," (1917).
- Folder 17 Manuscript #424, "On the Colours Diffusely Reflected from Some Collodion Films Spread on Metal Surfaces," (1917).
- Folder 18 Manuscript #426, "A Simple Problem in Forced Lubrication," (1917).
- Folder 19 Manuscript #427, "On the Scattering of Light by a Spherical Shells, and by Complete Spheres of Periodic Structure, When the Refractivity is Small," (1918).
- Folder 20 Manuscript #428, "Notes on the Theory of Lubrication," (1918).
- Folder 21 Manuscript #429, "On the Lubricating and other Properties of Thin Oily Films," (1918).
- Folder 22 Manuscript #430, "On the Scattering of Light by a Cloud of Similar Small Particles of any Shape and Oriented at Random," (1918).
- Folder 23 Manuscript #432, "Note on the Theory of the Double Resonator," (1918).

- Folder 24 Manuscript #433, "A Proposed Hydraulic Experiment," (1918).
- Folder 25 Manuscript #434, "On the Dispersal of Light by a Dielectric Cylinder," (1918).
- Folder 26 Manuscript #436, "On the Light Emitted from a Random Distribution of Luminous Sources," (1918).
- Folder 27 Manuscript #438, "On the Optical Character of Some Brilliant Animal Colours," (1919).
- Folder 28 Manuscript #442, "On the Resultant of a Number of Unit Vibrations, Whose Phases are at Random over a Range Not Limited to an Integral Number of Periods," (1919).
- Folder 29 Manuscript #443, "Presidential Address," (1919).
- Folder 30 Manuscript #444, "The Travelling Cyclone," (1919).
- Folder 31 Manuscript #445, "Periodic Precipitates," (1919).
- Folder 32 Manuscript #446, "On Resonant Reflexion of Sound from a Perforated Wall," (undated).

BOX EIGHT Microfilm Copies

SERIES THREE **ROUGH NOTES AND CALCULATIONS OF THIRD BARON RAYLEIGH**

(Microfilm copies in Box Sixteen.)

(The number is that of the published paper to which the material relates.)

BOX NINE

- Folder 1 Manuscript #7, "Some Experiments on Colour," (1871).
- Folder 2 Manuscript #10, "On Double Refraction," (1871).
- Folder 3 Manuscript #44.
- Folder 4 Manuscript #53.
- Folder 5 Manuscript #58.
- Folder 6 Manuscript #60.
- Folder 7 Manuscript #62, "Investigations in Optics, with Special Reference to the Spectroscope," (1879).

- Folder 8 Manuscript #63, "On Reflection of Vibrations at the Confines of Two Media between which the Transition is Gradual," (1880).
- Folder 9 Manuscript #66.
- Folder 10 Manuscript #69.
- Folder 11 Manuscript #77, "Experiments in Colour," (1881).
- Folder 12 Manuscript #78.
- Folder 13 Manuscript #109, "The form of Standing Waves on the Surface of Running Water," (1883).
- Folder 14 Manuscript #118, "On the Constant of Magnetic Rotation of Light in Bisulphide of Carbon," (1885).
- Folder 15 Manuscript #130, "On Waves Propagated along the Plane Surface of an Elastic Solid," (1885).
- Folder 16 Manuscript #136, "On the Colours of Thin Plates," (1886).
- Folder 17 Manuscript #138, "On the Intensity of Light Reflected from Certain Surfaces at Nearly Perpendicular Incidence," (1886).
- Folder 18 Manuscript #140, "Notes on Electricity and Magnetism and the Self-Induction and Resistance of Compound Conductors," (1886).
- Folder 19 Manuscript #148, "Wave Theory of Light," (1888).
- Folder 20 Manuscript #149, "On the Reflection of Light at a Twin Plane of a Crystal," (1888).

BOX TEN

- Folder 1 Manuscript #150, "On the Remarkable Phenomenon of Crystalline Reflexion Described by Prof. Stokes," (1888).
- Folder 2 Manuscript #151, "Is the Velocity of Light in an Electrolytic Liquid Influenced by an Electric Current in the Direction of Propagation?" (1888).
- Folder 3 Manuscript #152, "On the Bending and Vibration of Thin Elastic Shells, Especially of Cylindrical Form," (1888).
- Folder 4 Manuscript #155, "Note on the Free Vibrations of an Infinitely Long Cylindrical Shell," (1889).
- Folder 5 Manuscript #156, "On the Free Vibrations of an Infinite Plate of Homogeneous Isotropic Elastic Matter," (1889).

- Folder 6 Manuscript #160, "On the Character of the Complete Radiation at a Given Temperature," (1889).
- Folder 7 Manuscript #161, "On the Visibility of Faint Interference-Bands," (1889).
- Folder 8 Manuscript #162, "On the Uniform Deformation in Two Dimensions of a Cylindrical Shell of Finite Thickness, with Application to the General Theory of Deformation of Thin Shells," (1889).
- Folder 9 Manuscript #163, "On Achromatic Interference Bands," (1889).
- Folder 10 Manuscript #164, "On Bells," (1890).
- Folder 10A Manuscript #170, "On the Superficial Viscosity of Water," (1890).
- Folder 10A-2 Manuscript #175, "On the Tension of Water Surfaces, Clean and Contaminated, Investigated by the Method of Ripples," (1890).
- Folder 11 Manuscript #178, "On Pin-Hole Photography," (1891).
- Folder 12 Manuscript #180, "On the Sensitiveness of the Bridge Method in Its Application to Periodic Electric Currents," (1891).
- Folder 13 Manuscript #183, "Dynamical Problems in Illustration of the Theory of Gases," (1891).
- Folder 14 Manuscript #185, "On Reflexion from Liquid Surfaces in the Neighbourhood of the Polarizing Angle," (1892).
- Folder 15 Manuscript #186, "On the Theory of Surface Forces and Compressible Fluids," (1892).
- Folder 16 Manuscript #198, "On the Intensity of Light Reflected from Water and Mercury at Nearly Perpendicular Incidence," (1892).
- Folder 17 Manuscript #200, "On the Influence of Obstacles Arranged in Rectangular Order upon the Properties of a Medium," (1892).
- Folder 18 Manuscript #203, "On the Theory of Stellar Scintillation," (1893).
- Folder 19 Manuscript #206, "On the Reflection of Sound or Light from a Corrugated Surface," (1893).
- Folder 20 Manuscript #211, "On the Minimum Current Audible in the Telephone," (1894).
- Folder 21 Manuscript #212, "An Attempt at a Quantitative Theory of the Telephone," (1894).
- Folder 21A Manuscript #218, "On Some Physical Properties of Argon and Helium," (1896).

- Folder 21A-2 Manuscript #219, "On the Amount of Argon and Helium Contained in the Gas from the Bath Springs," (1896).
- Folder 22 Manuscript #230, "On the Incidence of Aerial and Electric Waves upon Small Obstacles in the Form of Ellipsoids or Elliptic Cylinders, and on the Passage of Electric Waves through a Circular Aperture in a Conducting Screen," (1897).
- Folder 22A Manuscript #241, "On the Character of the Impurity found in Nitrogen Gas Derived from Urea," (1898).
- Folder 23 Manuscript #249, "On the Calculation of the Frequency of Vibration of a System in its Gravest Mode, with an Example from Hydrodynamics," (1899).

BOX ELEVEN

- Folder 1 Manuscript #251, "Investigations in Capillarity," (1899).
- Folder 1A Manuscript #255, "On the Passage of Argon through Thin Films of India Rubber," (1899).
- Folder 2 Manuscript #265, "On the Stresses in Solid Bodies Due to Unequal Heating, and on the Double Refraction Resulting Therefrom," (1901).
- Folder 2A Manuscript #279, "Is Rotary Polarization Influenced by the Earth's Motion?" (1902).
- Folder 3 Manuscript #286, "Considerations Respecting the Combustion of Modern Propellants in Closed Vessels and in Guns," (1903).
- Folder 3A Manuscript #288, "On the Proportion of Argon in the Vapour Rising from Liquid Air," (1903).
- Folder 4 Manuscript #289, "On the Theory of Optical Images, with Special Reference to the Microscope," (1903).
- Folder 5 Manuscript #292, "On the Acoustic Shadow of a Sphere," (1904).
- Folder 6 Manuscript #293, "Shadows," (1904).
- Folder 6A Manuscript #299, "On the Density of Nitrous Oxide," (1904).
- Folder 7 Manuscript #300, "Note to a Paper by Prof. Wood on the Achromatization of Approximately Monochromatic Interference Fringes by a Highly Dispersive Medium," (1904).
- Folder 8 Manuscript #301, "On the Open Organ-Pipe Problem in Two Dimensions," (1904).

- Folder 9 Manuscript #304, "On the Pressure of Gases and the Equation of Virial," (1905).
- Folder 10 Manuscript #305, "The Dynamical Theory of Gases and of Radiation," (1905).
- Folder 11 Manuscript #309, "On the Momentum and Pressure of Gaseous Vibrations, and on the Connexion with the Virial Theorem," (1905).
- Folder 12 Manuscript #313, "On Electrical Vibrations and the Constitution of the Atom," (1906).
- Folder 13 Manuscript #315, "On the Dilatational Stability of the Earth," (1906).
- Folder 14 Manuscript #318, "On the Interference Rings, Described by Haidinger, Observable by Means of Plates Whose Surfaces Are Absolutely Parallel," (1906).
- Folder 15 Manuscript #322, "On the Dynamical Theory of Gratings," (1907).
- Folder 16 Manuscript #323, "Note on the Remarkable Case of Diffraction Spectra Described by Prof. Wood," (1907).
- Folder 17 Manuscript #324, "On the Light Dispersed from Fine Lines Ruled upon Reflecting Surfaces or Transmitted by Very Narrow Slits," (1907).

BOX TWELVE

- Folder 1 Manuscript #328, "On the Aberration of Sloped Lenses and on Their Adaptation to Telescopes of Unequal Magnifying Power in Perpendicular Directions," (1908).
- Folder 2 Manuscript #329, "Hamilton's Principle and the Five Aberrations of Von Seidel," (1908).
- Folder 3 Manuscript #330, "Vortices in Oscillating Liquid," (1908).
- Folder 4 Manuscript #332, "On Reflection from Glass at the Polarizing Angle," (1908).
- Folder 5 Manuscript #342, "Note on the Regularity of Structure of Actual Crystals," (1910).
- Folder 6 Manuscript #346, "Aerial Plane Waves of Finite Amplitude," (1910).
- Folder 7 Manuscript #351, "Hydrodynamical Notes," (1911).
- Folder 8 Manuscript #359, "On the General Problem of Photographic Reproduction, with Suggestions for Enhancing Gradation Originally Invisible," (1911).

- Folder 9 Manuscript #360, "On the Propagation of Waves through a Stratified Medium, with Special Reference to the Question of Reflection," (1912).
- Folder 10 Manuscript #365, "Electrical Vibrations on a Thin Anchor-Ring," (1912).
- Folder 11 Manuscript #371, "The Effect of Junctions on the Propagation of Electric Waves along Conductors," (1913).
- Folder 12 Manuscript #375, "On the Passage of Waves through Fine Slits in Thin Opaque Screens," (1913).

BOX THIRTEEN

- Folder 1 Manuscript #375, "On the Passage of Waves through Fine Slits in Thin Opaque Screens," (1913).
- Folder 2 Manuscript #376, "On the Motion of a Viscous Fluid," (1913).
- Folder 3 Manuscript #380, "Further Applications of Bessel's Functions of High Order to the Whispering Gallery and Allied Problems," (1914).
- Folder 4 Manuscript #381, "On the Diffraction of Light by Spheres of Small Relative Index," (1914).
- Folder 5 Manuscript #382, "Some Calculations in Illustration of Fourier's Theorem," (1914).
- Folder 6 Manuscript #385, "On the Theory of Long Waves and Bores," (1914).
- Folder 7 Manuscript #387, "The Equilibrium of Revolving Liquid under Capillary Force," (1914).
- Folder 8 Manuscript #393, "Deep Water Waves, Progressive or Stationary, to the Third Order of Approximation," (1915).
- Folder 9 Manuscript #394, "Aeolian Tones," (1915).
- Folder 10 Manuscript #396, "Hydrodynamical Problems Suggested by Pitot's Tubes," (1915).
- Folder 11 Manuscript #398, "On the Stability of the Simple Shearing Motion of a Viscous Incompressible Fluid," (1915).
- Folder 12 Manuscript #399, "On the Theory of the Capillary Tube," (1915).

BOX FOURTEEN

- Folder 1 Manuscript #401, "The Theory of the Helmholtz Resonator," (1915).
- Folder 2 Manuscript #403, "On the Electrical Capacity of Approximate Spheres and Cylinders," (1916).

- Folder 3 Manuscript #404, "On Legendre's Function $P_n(\theta)$, When N is Great and θ has Any Value," (1916).
- Folder 4 Manuscript #407, "On the Flow of Compressible Fluid past an Obstacle," (1916).
- Folder 5 Manuscript #415, "On Methods of Detecting Small Optical Retardations, and on the Theory of Foucault's Test," (1917).
- Folder 6 Manuscript #419, "On Periodic Irrotational Waves at the Surface of Deep Water," (1917).
- Folder 7 Manuscript #422, "On the Reflection of Light from a Regularly Stratified Medium," (1917).
- Folder 8 Manuscript #423, "On the Pressure Developed in a Liquid during the Collapse of a Spherical Cavity," (1917).
- Folder 9 Manuscript #427, "On the Scattering of Light by Spherical Shells, and by Complete Spheres of Periodic Structure, When the Refractivity is Small," (1918).
- Folder 10 Manuscript #428, "Notes on the Theory of Lubrication," (1918).

BOX FIFTEEN

- Folder 1 Manuscript #430, "On the Scattering of Light by a Cloud of Similar Small Particles of Any Shape and Oriented at Random," (1918).
- Folder 2 Manuscript #434, "On the Dispersion of Light by a Dielectric Cylinder," (1918).
- Folder 3 Manuscript #441, "On the Problem of Random Vibrations, and of Random Flights in One, Two, or Three Dimensions," (1919).
- Folder 4 Manuscript #442, "On the Resultant of a Number of Unit Vibrations, Whose Phases are at Random over a Range Not Limited to an Integral Number of Periods," (1919).
- Folder 5 Manuscript #444, "The Travelling Cyclone," (1919).
- Folder 6 Unknown Manuscript #1.
- Folder 7 Unknown Manuscript #1.
- Folder 8 Unknown Manuscript #3.
- Folder 9 Unknown Manuscript #4.

BOX SIXTEEN Microfilm Copies

**SERIES FOUR SCIENTIFIC CORRESPONDENCE WITH THIRD BARON
RAYLEIGH**

(Microfilm copies in Box Twenty-three.)

BOX SEVENTEEN

(Numbers in parenthesis pertain to number of letters; list does not include the argon correspondence; about fifty signatures illegible; the total number of letters is about eleven hundred.)

Folder 1	Abel, F.A.	1876.
	Abney, W.W.	Undated, (5).
	Adams, J.C	1887-1888, (2).
	Adams, W.G.	1879.
	Agassiz, A.	1884.
	Aichi, Keiichi	1918, (2).
	Airy, Hubert	1883.
	Aitken, John	1882-1917, (22).
	Amagat, E.H.	1904.
	Ames, J.S.	1897.
	Angstrom, Knut	1905.
	Appleyard, Rollo	1897, (2).
	Armstrong, H.G.	1892-1894, (2).
	Asquith, H.H.	1908.
	Austin, W.R.	1895.
	Ayitt	1888.
	Ayrton, Herta	1908.
	Ayrton, W.E.	1884-1896, (4).
Folder 2	Baker, H.B.	1902.
	Balfour, A.J.	1908-1916, (2).
	Ball, R.S.	1888.
	Bapan, J.	1901.

	Barker, G.F.	1884-1896, (3).
	Barrell, F.R.	1883.
	Barrett, W.F.	1883-1902, (3).
	Barus, C.	1892-1904, (3).
	Basset, A.B.	1896.
	Basset, M.	1889.
	Battelli, A.	1901.
	Batten, B.	1885-1901, (2).
	Bell, Alex G.	1878.
	Bell, C. A.	1886.
	Bench, W. Hicks	1897, (3).
	Benham, Charles	1896.
	Besant, W.S.	1877.
	Bidwell, S.	1886, (3).
	Birkeland, C.	1906.
	Bjerknes, V.	1909.
	Blaikley, D.J.	1884, (2).
	Blakesley, T.H.	1891.
	Bacher, M.	1899.
	Boltzmann, Ludwig	1884-1894, (4).
	Bonney, F.G.	1881.
	Borel, E.	1913.
	Bosanquet, R.H.M.	1872, (7).
	Bose, J.C.	1899.
	Bottomley, J.T.	1886-1888, (3).
Folder 3	Boys, C.V.	1893-1918, (6).
	Brace, D.B.	1890.
	Bramwell, F.	1886-1889, (3).

	Brashear, J.A.	1895-1905, (3).
	Brown, H.T.	1898-1910, (4).
	Brown, W.G.	1879.
	Brown, Walter R.	1873-1877, (2).
	Browning, John	1873-1874, (2).
	Bryan, G.H.	1895-1900, (2).
	Burbury, S.H.	1888-1900, (3).
	Burnside, W.	1904-1917, (3).
	Butler, A.M.	1875-1887, (3).
	Caligny	1883.
	Callendar, H.L.	1913-1914, (2).
	Carhart, H.S.	1887.
	Carnarvon	1875-1876, (2).
	Cayley, A.	1874-1888, (3).
	Chree, C.	1889, (2).
	Christiansen, C.	1892.
	Christie, W.H.	1901.
	Chrystal, G.	1880-1893, (5).
Folder 4	Church, A.H.	1892.
	Clark, Latimer	1889.
	Clarke, F.W.	1894-1895, (2).
	Clarke, Hyde	1885.
	Clifford, W.K.	Undated.
	Clifton, R.B.	1877-1883, (2).
	Comins, A.T.	1895.
	Common, A.A.	1894.
	Cooke, Josiah P.	1885.
	Cooper, R.E.S.	1907.

	Cornish, Vaughan	1907, (2).
	Cornu, A.	1878-1902, (5).
	Crary, Thomas	1880.
	Crookes, William	1874-1900, (7).
	Cross, R.	1878.
	Cunningham, A.W.	1885.
	Czapski, S.	1888-1893, (3).
	Darwin, G.H.	1884-1912, (9).
	Davis, W.M.	1883-1885, (2).
	De La Rue, Warren	1875-1885, (9).
Folder 5	Denig, John	1876.
	Devaux, H.	1918.
	Devonshire	1881.
	Dewar, James	1888-1901, (6).
	Dickson, J.D.H.	1898.
	Dittmar, W.	1890.
	Dixon, Harold B.	1886.
	Donne, A.	1866.
	Dorn, E.	1893.
	Dunkin, Edwin	1872.
	Ebert, H.	1889.
	Eder, J.M.	1895.
	Ehrenfest, Paul	1908.
	Ellery, R.	1876.
	Ellis, A.J.	1876-1884, (9).
	Elsas, Adolf	1884.
	Enock, J.K.	1908-1912, (2).
	Evans, John	1882-1884, (2).

	Evans, W.	1885, (3).
	Everett, J.D.	1871-1903, (16).
	Ewing, I.A.	1886-1890, (2).
Folder 6	Fabray, C.	1915.
	Ferrell, W.	1889.
	Fessenden, R.A.	1900-1901, (2).
	Fitzgerald, G.F.	1887-1900, (6).
	Fitzgerald, M.F.	1899-1909, (2).
	Flemming, J.A.	1883-1901, (5).
	Forbes, George	1882-1885, (2).
	Forbes, M.	1890.
	Forsyth, A.R.	1894.
	Foster, G. Cary	1878-1884, (5).
	Foster, M.	1906, (2).
	Frankland, E.	1894-1895, (4).
	French, J.W.	1917.
	Froehlich, O.	1895, (4).
	Froate, Percival	1877.
	Froude, R.E.	1889-1913, (10).
	Froude, W.	1876-1877, (4).

BOX EIGHTEEN

Folder 1	Galloway, W.	1901.
	Gaitan, Douglas	1879.
	Gaitan, Francis	1876-1908, (11).
	Garnett, W.	1883.
	Gautier, A.	1901.
	Gibbs, J. Willard	1892-1900, (4).
	Gilberts, J.W.	1886.

	Giltay, J.W.	1885, (2).
	Gladstone, W.E.	1872.
	Glaisher, J.W.	1872-1882, (8).
	Glazebrook, R.T.	1871, (7), original, 1905-1917.
	Gordon, Geo.	Undated, 1882.
	Gordon, J.E.H.	1881-1884, (3).
	Gore, Geo.	1884.
	Goschen, J.	1892.
	Graetz, L.	1877, (2).
Folder 2	Gray, A.	1884-1886, (2).
	Greely, A.W.	1889.
	Green, F.W.	1900.
	Greenhide, G.	1918.
	Greenhill, A.G.	1879-1886, (3).
	Greenwood, J.G.	1881.
	Griffiths, A.B.	1906.
	Guillemard, L.N.	1897.
	Guthre, F.	1876-1885, (2).
	Guye, P.A.	1889-1912, (8).
	Hale, G.E.	1908-1909, (2).
	Harcourt, A. V.	1886, (4).
	Hasselberg, B.	1883-1884, (2).
	Haughton, S.	1871.
	Hazen, H.A.	1892, (2).
	Heaviside, O.	1891-1913, (5).
	Helmholtz, H. von	1885.
	Herman, R.A.	1908.
	Herroun, E.F.	1892.

	Herschel, A.S.	1873-1878, (5).
Folder 3	Herschel, A.S.	1873-1885, (5).
	Herschel, J.F.W.	1870.
	Hertz, H.	1891.
	Heycock, Charles	1898.
	Hicks, W.M.	1884.
	Higgs, G.	1890.
	Hill, E. A.	1895, (2).
	Hipkins, A.I.	1885, (2).
	Hinricks, G.	1897.
	Hirst, T. Archer	1874-1878, (4).
	Hodgkinson, A.	1886-1890, (6).
	Hoffert, H.H.	1889.
	Holmes, O.W.	1884.
	Hopkinson, J.S.	1884-1886, (5).
	Horner, Charles	1872-1881, (6).
	Hough, S.S.	1897.
	Huggins, William	1879-1893, (9).
	Hughes, D.E.	1886, (2).
	Humphrey, M.I.	1904.
Folder 4	Henley, J.W.	1884, (2).
	Hunt, A.R.	1874-1917, (22).
	Hurley of B.	1910.
	Huxley, T.H.	1894.
	Ives, Herbert E.	1905.
	Ives, James E.	1913.
Folder 5	Jeans, J.H.	1917, (2).
	Johnson, G.L.	1889.

Jones, J.V.	1890.
Jonie, James	1882.
Judd, J.W.	1888-1889, (4).
Julius, V.A.	1885-1889, (2).
Kayser, H.	1899-1901, (5).
Kennelly, A.E.	1912.
Kitasato, S.	1908.
Klemencick, I.	1886.
Kohlrausch, F.	1884-1908, (6).
Korteweg, D.	1891-1912, (5).
Kundt, A.	1881.

BOX NINETEEN

Folder 1	Labee, J.B.	1875.
	Lamb, H.	1887-1916, (15).
	Langley, S.P.	1887-1991, (2).
	Lankester, E.R.	Undated, (2).
	Larmor, J.	1896-1917, (18).
	Leduc, A.	1898.
	Lepinary, Maree de	1890.
	Leudensfeld	1902.
	Lewis, W.J.	1904.
	Lippmann, G.	1896-1900, (3).
	Lister, Joseph	1894.
	Liuentaal, A.	1901.
	Liveing, G.D.	1879-1900, (5).
	Lloyd, R.J.	1895-1896, (5).
	Lockyer, N.	1875, (7).
	Lodge, Alfred	1876.

Folder 2	Lodge, Oliver J.	1882-1908, (34).	
	Lommel, E.	1887.	
	Long, F.M.	1913.	
	Lorentz, H.A.	1892-1905, (5).	
	Loup, W.H.	1897.	
	Love, A.E.H.	1888-1915, (14).	
	Lowell, G.A.	1884.	
	Lubend, J.	1883-1888, (3).	
Folder 3	Lummer, O.	1900-1906, (3).	
	Lyell, C.	1868.	
	Lyman, Theodore	1904.	
	Lytton	1888, (2).	
	Mackenzie, H.W.	1881.	
	MacMahon, P.A.	1897.	
	Mallock, A.	1878-1914, (18).	
	Manchester, T.	1913.	
	Mannheim	1878.	
	Marangoni, C.	18592.	
	Marconi, G.	1903-1909, (2).	
	Marvin, C.F.	1897.	
	Mascart, E.	1885-1899, (15).	
	Folder 4	Matthews, Henry	1890-1891, (2).
		Maxim, H.	1900.
Maxwell, J.C.		1871-1873, (5).	
Mayer, A.M.		1873-1894, (10).	
McConnel, J.C.		1887-1889, (4).	
McLeod, H.		1877-1885, (5).	
McMahon, J.		1894, (3).	

	Meldola, R.	1881-1890, (3).
	Mendeleef, D.	1895-1905, (2).
	Merrifield, C.W.	1871-1876, (2).
	Meyer, L.	1892.
	Michell, J.H.	1890.
Folder 5	Michelson, A.	1883-1912, (18).
	Minchin, G.M.	1884.
	Monro, C.J.	1871-1878, (6).
	Morgan, C.L.	1890.
	Mordry, W.M.	1889-1897, (2).
	Morley, Edward	1892.
	Morton, John	1906, (2).
	Morton, W.B.	1900-1904, (2).
	Muirhead, A.	1886-1887, (6).
	Musprats, E.K.	1888, (5).
	Myers, J.W.	Undated, 1902, (2).
	Natanson, L.	1891.
	Neesen, F.	1882.

BOX TWENTY

Folder 1	Nernst, W.	1911.
	Neville, L.	1891.
	Newall, H.F.	1885.
	Newcomb, S.	1884-1903, (6).
	Norbert, F.A.	1872, (3).
	Noyes, W.A.	1890.
	Obach, E.	1885, (3).
	Ohrbeck, A.	1887.
	Oliver, J.A.W.	1882, (2).

	Onnes, H. Kamerlingh	1900, (2).
	Oosting, A.J.	1888.
	Orr, W.M.	1907-1918, (7).
Folder 2	Ostwald, W.	1902.
	Owen, R.	1886.
	Parsons, Charles S.	1887-1908, (2).
	Parsons, L. (Rosse)	1885-1887, (2).
	Pearson, Karl	1905.
	Peirce, C.S.	1884.
	Perry, J.	1889.
	Peterbrough, W.C.	1875.
	Phillips, Charles	1909.
	Piccard, J.	1891.
	Planck, M.	1900.
	Playfair, L.	1885.
	Pockels, Agnes	1891, (6).
	Pockels, Friedrich	1891.
	Poincare, R.	Undated.
	Pole, W.	1890.
	Poynting, J.H.	1883-1905, (5).
Folder 3	Preese, W.H.	1882-1889, (4).
	Preston, S.T.	1878-1883, (6).
	Preston, T.	1894-1899, (4).
	Price, B.	1888.
	Quincke, G.	1874-1912, (7).
	Rae, J.	1891.
	Ramsay, W.	1886-1891, (3).
	Randall, W.W.	1917.

	Reinold, A.W.	1883-1885, (2).
	Reynolds, F.W.	1882.
	Reynolds, Osborne	1875-1886, (5).
Folder 4	Richards, T.W.	1892-1916, (7).
	Righi, A.	1895.
	Roberts, W.C. (Austen)	1880-1888, (3).
	Rohr, M. von	1908.
	Roitz, A.	1883.
	Rood, O.N.	1898.
	Roscoe, H.E.	1881-1883, (3).
	Routh, E.	1903, (2).
	Rowland, Henry	1882-1897, (6).
	Rubens, H.	1898-1910, (3).
	Rucker, A.W.	1889.
	Russell, W.H.L.	1872, (?).
	Russell, W.J.	1902.
	Rust, A.	1890.
	Rutherford, E.	1904.
	Salisbury	1894, (2).
	Sampsin, R.A.	1912-1918, (3).
	Schoenrock, O.	1906.
	Schellen, A.	1875-1878, (2).
Folder 5	Schuster, A.	1880-1909, (14).
	Scott, M.	1885-1887, (3).

BOX TWENTY-ONE

Folder 1	Scott, R.H.	1887.
	Seely, John Bernard	1919.
	Seeman, R.	1885, (2).

	Senior, Edgar	1902.
	Shaw, H.S. Hele	1885.
	Shaw, W.N.	1885.
	Sidgwick, E.M.	1881-1884, (6).
	Sidgwick, H.	Undated.
	Siemeng, C.W.	1875-1884, (7).
	Simmonds, William	1883.
Folder 2	Simpson, A.B.	1889-1890, (9).
	Simpson, J.C.	1890.
	Sleeman, Philip	1884-1887, (2).
	Smith, F.J.	1891.
	Smith, W.H.	1889.
	Smith, W.R.	1882-1889, (7).
Folder 3	Smyth, C.P.	1877-1887, (4).
	Sommerfeld, A.	1910-1912, (2).
	Sorby, H.C.	1875-1878, (3).
	Southall, J.P.C.	1911.
	Spotteswoode, W.	1882.
	Stanford, E.W.	1888, (3).
	Stanton, T.I.F.	1912.
	Stevens, W.L.	1888-1889, (4).
	Stokes, G.G.	1886-1887, (3).
	Stoney, E.A.	1911.
	Stoney, G. Johnstone	1871-1911, (8).
	Strehlke, F.	1882.
	Stromeyer, C.	1887-1896, (3).
	Strutt, R.J.	1918.
	Suess, E.	1895.

	Sutherland, W.	1905.
	Swann, J.W.	1896.
	Sylvester, J.J.	1888, (2).
Folder 4	Tait, P.G.	1890-1900, (16).
	Tandusku, F.W.	1909.
	Taylor, S.	1893.
	Terreu	1884.
	Thomas, D.	1844.
	Thompson, S.P.	1887-1888, (3).
	Thompson, W.H.	1881-1885, (3).
	Thomson, J.J.	1894-1915, (6).
	Thomson, James	Undated.
	Thomson, W.	1884.
	Thorp, T.	1902.
	Thorpe, G.S.	1888-1917, (2).
	Threlfall, R.	1887-1909, (5).
	Thrustone, W.A.	1886.
	Todhunter, J.	1874-1878, (5).
	Tomlinson, C.	1884.
	Tower, B.	1875-1879, (3).
	Trotter, A.P.	1889-1910, (2).
	Trowbridge, John	1884.
	Tscherning	1897-1902, (4).
	Tyndall, John	1874-1879, (9).
Folder 5	Varley, S.A.	1890, (3).
	Veley, V.H.	1892.
	Vines, S.H.	Undated.
	Voight, W.	1888-1910, (4).

Vyozan, G.R.	1900.
Wadsworth, F.L.O.	1896-1898, (5).
Walton	1874-1877, (2).
Ward, James T.	1876-1886, (2).
Wastuy, E.	1908.
Watson, H.W.	1883-1892, (6).

BOX TWENTY-TWO

Folder 1	Weber, H.	1900-1911, (2).
	Webster, A.G.	1900-1910, (5).
	Wells, H.G.	1903.
	Whitaker	1896.
	White, R.G.	1869-1877, (2).
	Whitmel, C.T.	1889-1919, (6).
	Wiedemann, G.	1882-1889, (7).
	Wien, Max	1895.
	Wild, F.	1884.
	Folder 2	Williams, A.C.
Williamson, Alex		1885.
Wilson, H.A.		1908.
Wilson, J.M.		1884.
Wood, R.W.		1898-1919, (45).
Folder 3	Wood, R.W.	1898-1919, (45).
Folder 4	Wood, R.W.	1898-1919, (45).
	Worthington, A.M.	1889.
	Wright, C.R.	1883.
	Wright, Lewis	1897-1900, (2).
	Young, S.	1902.
	Zeeman, P.	1897-1911, (4).

Zunshing, V. 1901.

BOX TWENTY-THREE Microfilm Copies**SERIES FIVE** ARGON CORRESPONDENCE

(Only microfilm copies.)

BOX TWENTY-FOUR Rayleigh-Ramsay letters, Ramsay-Dewar letters (one hundred sheets of manuscript calculations & data readings, two hundred miscellaneous letters).

T.P.=Terling Place, A.G.=12 Arundel Gardens, B.H.=Burlington House, U.C.=University College.

22 Jan 1887	R. to Ramsay	from 90 Onslow Gardens	(copy).
7 Jul 1891	R. to Ramsay	from B.H.	(copy).
16 Nov 1891	R. to Ramsay	from T.P.	(copy).
20 Nov 1892	Ramsay to R.		
15 Mar 1893	R. to Ramsay	from B.H.	(copy).
26 Jan 1894	R. to Ramsay	from T.P.	(copy).
24 May 1894	Ramsay to R.	from A.G.	
4 Aug 1894	Ramsay to R.	from U.C.	
7 Aug 1894	R. to Ramsay		
7 Aug 1894	Ramsay to R.	from A.G.	
20 Aug 1894	Ramsay to R.	from N.B.	
24 Aug 1894	Ramsay to R.	from N.B.	
13 Sep 1894	Ramsay to R.	from N.B.	
16 Sep 1894	R. to Ramsay	from T. P.	(copy).
24 Sep 1894	Ramsay to R.	from A.G.	
27 Sep 1894	Ramsay to R.	from A.G.	
5 Oct 1894	Ramsay to R.	from A.G.	
13 Oct 1894	Ramsay to R.	from U.C.	
22 Oct 1894	Ramsay to R.	from A.G.	

28 Oct 1894	Ramsay to R.	from A.G.	
2 Nov 1894	Ramsay to R.	from A.G.	
7 Nov 1894	Ramsay to R.	from A.G.	
9 Nov 1894	Ramsay to R.	from A.G.	
15 Nov 1894	Ramsay to R.	from U.C.	
21 Nov 1894	Ramsay to R.	from A.G.	
29 Nov 1894	Ramsay to R.	from A.G.	
2 Dec 1894	Ramsay to R.	from A.G.	
3 Dec 1894	Ramsay to R.	from A.G.	
5 Dec 1894	Ramsay to R.		
7 Dec 1894	Ramsay to R.	from U.C.	
8 Dec 1894	Ramsay to R.	from A.G.	
9 Dec 1894	Ramsay to R.	from A.G.	
17 Dec 1894	Ramsay to R.	from U.C.	
19 Dec 1894	Ramsay to R.	from A.G.	
24 Dec 1894	Ramsay to R.	from A.G.	
7 Jan 1895	Ramsay to R.	from U.C.	
11 Jan 1895	Ramsay to R.	from A.G.	
13 Jan 1895	Ramsay to R.	from A.G.	
14 Jan 1895	Ramsay to R.	from U.C.	
Undated fragment	R. to Ramsay		(copy).
21 Jan 1895	Ramsay to R.	from A.G.	
28 Jan 1895	Ramsay to R.	from U.C.	
16 Feb 1895	Ramsay to R.	from A.G.	
(Sunday A.M.)	Ramsay to R.	from A.G.	
27 Feb 1895	Ramsay to R.	from A.G.	
18 Mar 1895	Ramsay to R.	from A.G.	
24 Mar 1895	Ramsay to R.	from A.G.	

25 Mar 1895	Ramsay to R.	from A.G.	
9 Apr 1895	Ramsay to R.	from N.B.	
20 May 1895	Ramsay to R.	from A.G.	
20 May 1895	Ramsay to R.	from T.P.	(copy).
23 May 1895	Ramsay to R.	from U.C.	
25 May 1895	Ramsay to R.	from A.G.	
9 Jun 1895	Ramsay to R.	from A.G.	
18 Jun 1895	Ramsay to R.	from U.C.	
24 Jun 1895	Ramsay to R.	from T.P.	(copy).
25 Jul 1895 (Jun?)	Ramsay to R.	from U.C.	
25 Jul 1895	Ramsay to R.	from T.P.	(copy).
25 Jul 1895	Ramsay to R.	from A.G.	
26 Jul 1895	Ramsay to R.	from A.G.	
13 Aug 1895	Ramsay to R.	from T.P.	(copy).
26 Aug 1895	Ramsay to R.	from T.P.	(copy).
5 Oct 1895	Ramsay to R.	from T.P.	(copy).
18 Dec 1895	Ramsay to R.	from 4 Carlton Gardens.	(copy).
4 Jan 1896	R. to Ramsay	from T.P.	
28 Feb 1896	Ramsay to R.	from A.G.	
3 Mar 1896	R. to Ramsay	from 10 Downing Street	(copy).
27 Mar 1896	Ramsay to R.	from A.G.	
13 Jul 1896	Ramsay to R.	from A.G.	
19 Jul 1896	Ramsay to R.	from A.G.	
2 Oct 1896	Ramsay to R.	from A.G.	
4 Oct 1896	Ramsay to R.	from A.G.	
10 Nov 1896	R. to Ramsay	from T.P.	(copy).
12 Jan 1897	Ramsay to R.	from A.G.	
14 Jan 1897	R. to Ramsay	from Royal Institution	(copy).

10 Jan 1897 (8?)	Ramsay to R.	from U.C.	
13 May 1898	Ramsay to R.	from U.C.	
23 May 1898	R. to Ramsay	from T.P.	(copy).
2 Jun 1898	Ramsay to R.	from A.G.	
5 Jun 1898	R. to Ramsay	from Hatfield	(copy).
7 Jun 1898	Ramsay to R.	from A.G.	
11 Jun 1898	R. to Ramsay	from T.P.	(copy?).
13 Jun 1898	Ramsay to R.	from A.G.	
18 Jul 1898	Ramsay to R.	from A.G.	
21 Jul 1898	R. to Ramsay	from T.P.	(copy).
30 Sep 1898	Ramsay to R.	from A.G.	
28 Nov 1898	R. to Ramsay	from T.P.	(copy).
28 Nov 1898	Ramsay to R.	from A.G.	
2 Dec 1899	Ramsay to R.	from A.G.	
11 May 1900	Ramsay to R.	from A.G.	
15 May 1900	Ramsay to R.	from U.C.	
18 May 1900	Ramsay to R.	from U.C.	
24 Feb 1902	R. to Ramsay	from 10 Downing Street	(copy).
24 Feb 1902	Ramsay to R.	from U.C.	
11 Mar 1902	Ramsay to R.	from U.C.	
16 Apr 1902	Ramsay to R.	from A.G.	
20 Nov 1904	R. to Ramsay	from T.P.	(copy).
22 Nov 1904	R. to Ramsay	from T.P.	(copy?).
2 Dec 1904	R. to Ramsay	from T.P.	(copy?).
16 Jul 1907	Ramsay to R.	from Chester Terrace	
(16?) Aug 1906	Lady Ramsay to R.	from High Wycombe	
19 Jan 1917	R. to Sir Wm. Tilden	from T.P.	(copy?).
7 Mar 1917	R. to Sir Wm. Tilden	from 4 Carlton Gardens	(copy).

Not dated Lady Ramsay to
R.J. Ld. R. from High Wycombe.

7 Oct 1937 M.W. Travers to
R. J. Ld. R. from Clifton, Bristol.

BOX TWENTY-FIVE Rayleigh Correspondence related to argon with people other than Ramsay.

Folder 1	Armstrong, Henry	1894-1895, (3).
Folder 2	Ayitt	1895.
Folder 3	Baly, Edward	undated.
Folder 4	Boys, C.V.	1915.
Folder 5	Bramwell, Fredereick	1895.
Folder 6	Crookes, William	1894, (7).
Folder 7	Dewar	1894-1895, (24).
Folder 8	Fitzgerald, Geo.	1895.
Folder 9	Harcourt, A. Vernon	1895, (2).
Folder 10	Harker, J.A.	1922, (3).
Folder 11	Huggins, William	1895, (5).
Folder 12	Jamis, J.E.	1925.
Folder 13	Kelvin	1895-1896, (7).
Folder 14	Kemna, Ad.	1894.
Folder 15	Kennedy, Alex. G.W.	1895.
Folder 16	Legge	1894, (3).
Folder 17	Lister, Joseph	1895.
Folder 18	McDougall, Arthur	1895.
Folder 19	Meldola, R.	1895-1897, (2).
Folder 20	Natterer, D. K.	1895.
Folder 21	Richards, Theodore W.	1895.
Folder 22	Richardson, Arthur	1894, (2).
Folder 23	Schuster	1894-1914, (7).

Folder 24	Stokes	1896, (2).
Folder 25	Thomson	1895.
Folder 26	Thorpe	1894, (3).
Folder 27	Tuption, Sydney	1892.
Folder 28	Miscellaneous letters	1894-1895 (unknown authors and/or dates).
Folder 29	Miscellaneous notes/letters	1892-1923 (unknown authors and/or dates).
Folder 30	Negatives of argon measurements.	

SERIES SIX MISCELLANEOUS MANUSCRIPTS (BARON RAYLEIGH III)

(Microfilm copies in Box Thirty-two.)

BOX TWENTY-SIX

Folder 1	Cambridge Lecture Notes: Static Electricity and Magnetism.
Folder 2	Cambridge Lecture Notes: Sound.
Folder 3	Cambridge Lecture Notes: Light.
Folder 4	Cambridge Lecture Notes: Astronomy.
Folder 5	Cambridge Lecture Notes: Elementary Current Electricity.
Folder 6	Cambridge Lecture Notes: Advanced Electricity.
Folder 7	Cambridge Lecture Notes: B.A. Experiments.
Folder 8	Royal Institution Lecture Notes: Light, (1889).
Folder 9	Royal Institution Lecture Notes: Electricity, (1890).
Folder 10	Royal Institution Lecture Notes: Forces of Cohesion, (1891).
Folder 11	Royal Institution Lecture Notes: Matter at Rest and In Motion, (1892).
Folder 12	Royal Institution Lecture Notes: Sound, (1893).
Folder 13	Royal Institution Lecture Notes: Light, (1894).
Folder 14	Royal Institution Lecture Notes: Fluids, (1895).
Folder 15	Royal Institution Lecture Notes: Light, (1896).
Folder 16	Royal Institution Lecture Notes: Heat, (1898).
Folder 17	Royal Institution Lecture Notes: Capillarity, (1899).

- Folder 18 Royal Institution Lecture Notes: Centenary Lecture "Young," (1899).
- Folder 19 Royal Institution Lecture Notes: Polarised Light, (1900).
- Folder 20 Royal Institution Lecture Notes: Sound, (1901),
- Folder 21 Royal Institution Lecture Notes: Shadows, (1904).
- Folder 22 Royal Institution Lecture Notes: Miscellaneous collection of papers.
- Folder 23 Notes found in books: author's copy of "Theory of Sound."
- Folder 24 Notes found in books: author's copy of J.W.S. "Scientific Papers."
- Folder 25 Notes found in books: Maxwell's "Heat."
- Folder 26 Notes found in books: Maxwell's "Electricity."
- Folder 27 Notes found in books: Boussinesq's "Appl. Des Potentiels."
- Folder 28 Notes found in books: Thomson and Tait.

BOX TWENTY-SEVEN

- Folder 1 Notes found in books: Grey and Matthew's "Bessel Functions."
- Folder 2 Notes found in books: Coddington's "Optics."
- Folder 3 Notes found in books: Lamb's "Hydrodynamics."
- Folder 4 Notes found in books: Basset's "Hydrodynamics."
- Folder 5 Notes found in books: Shaw's "Forecasting Weather."
- Folder 6 Comments on Stokes' Wilde Lecture, (1904).
- Folder 7 Comments on Callender's Theory of Radiation.
- Folder 8 Theory of Sound Notes (1872-1893).
- Folder 9 Theory of Sound Correspondence with Chree, (1889).
- Folder 10 Calculations relating to the "Theory of Sound."
- Folder 11 Calculations relating to the "Theory of Sound."
- Folder 12 Calculations relating to the "Theory of Sound."
- Folder 13 Calculations relating to the "Theory of Sound."
- Folder 14 Miscellaneous notes on lectures: "Light and Heat," "Density of Gas," "Newton's Spectrum with Sunshine," and others.

BOX TWENTY-EIGHT Unpublished Manuscripts and Rough Calculations

- Folder 1 "Aeroplanes, Kites, and Windmills," (1891).

- Folder 2 "Anchor Ring and Terminated Rod," (1912).
- Folder 3 BA announcement of "Argon," (probably first draft), (1894).
- Folder 4 "Cavendish Period," (undated).
- Folder 5 "Clausius, Kirchhoff," (undated).
- Folder 6 "Color of Water," (1909).
- Folder 7 "Color Vision Curves," (undated).
- Folder 8 "Color Vision" papers examined by Sir W. Abney, (undated).
- Folder 9 "Combined Streams," (undated).
- Folder 10 Comments of Mallock, (1919).
- Folder 11 "Connection between Surface and Vapor Pressure," (undated).
- Folder 12 "Differential Telephone and Electricity," (1881).
- Folder 13 "Diffuse Reflection," (1912).
- Folder 14 "Diffusion of Gases," (1896).
- Folder 15 "Effect of Friction on Tides," (undated).
- Folder 16 "Effect of Spherical Aberration on Photographic Aberration," (undated).
- Folder 17 "Electric Constitution of Atoms," (1907).
- Folder 18 "Electric Waves along Channels," (1911).
- Folder 19 "Experiment on Bird Calls," (1919).
- Folder 20 "Experiment on Gratings," (undated).
- Folder 21 "Fluid Flow," (1915).
- Folder 22 "Flying High and Near the Earth," (undated).
- Folder 23 "Focusing Eye Nearer than Object," (1864).
- Folder 24 "Force between Electrified Spheres of Water," (undated).
- Folder 25 "Fourier Theory of Heat," (undated).

BOX TWENTY-NINE

- Folder 1 "Froude Experiment," (1913).
- Folder 2 "Heat Flow in Cylinder," (1914).
- Folder 3 "Hydraulic Ram and Sensitive Jet," (undated).

- Folder 4 "Hydrodynamics," (1916).
- Folder 5 "Incidence of Light upon a Transparent Sphere of Dimensions Comparable with Wavelength," (1910).
- Folder 6 "Incidence of Light upon a Transparent Sphere of Dimensions Comparable with Wavelength," (1910).
- Folder 7 "Kinetic Theory of Gases," (undated).
- Folder 8 "Light, Early," (undated).
- Folder 9 "Light Dispersed by Dielectric Cylinder," (1918).
- Folder 10 "Liquid Instability," (undated).
- Folder 11 "Mechanics of Stopcock Grease," (undated).
- Folder 12 "Optical Work: Fabry and Perot," (1906).
- Folder 13 "The Pearly Structure of Disturbed Soapy Water," (1897).
- Folder 14 "Potential Problem Dealing with Half a Sphere," (undated).
- Folder 15 "Propagation of a Group of Waves," (undated).
- Folder 16 "Radiation," (undated).
- Folder 17 "Reflection from Metals," (undated).

BOX THIRTY

- Folder 1 "Reflection of Light," (undated).
- Folder 2 "Reflection of Sound from Porous Wall," (ca. 1917-1919).
- Folder 3 "Relative motion of Parts of a Jet," (undated).
- Folder 4 "Resistance of Fluids Flowing against the Surface of a Solid," (1893).
- Folder 5 "Resonance of Sodium," (1919).
- Folder 6 Scattering, correspondence with Larmer, (1918-1919).
- Folder 7 "Shallow Water Waves," (1902).
- Folder 8 "Soap Bubbles," (undated).
- Folder 9 "Sound in Fluids," (1985).
- Folder 10 "Temperature of the Nose of a Bullet," (undated).
- Folder 11 "Thermodynamics of OH Explosion," (undated).
- Folder 12 "Thermodynamics of Steam Engine," (1875).

Folder 13	"Thermopile," (undated).
Folder 14	"Tides," (undated).
Folder 15	"Velocity of Sound," (undated).
Folder 16	"Virial Equation," (undated).
Folder 17	"Viscosity in Two-Dimensional Tube," (undated).
Folder 18	"Viscous Fluid in Two Dimensions," (undated).
Folder 19	"Viscous Fluids," (1889-1893).
Folder 20	"Vortex in Otherwise Stationary Viscous Fluid in Two Dimensions," (1914).
Folder 21	"Vortex Ring behind a Disk," (undated).
Folder 22	"Vortex Ring Dimension Determinants," (1912).
Folder 23	"Waves in a Sea of Variable Depth," (1902).
Folder 24	"Whispering Gallery," (undated).
Folder 25	Miscellaneous notes, (undated).
Folder 26	1891.
Folder 27	1893.
Folder 28	1901.
Folder 29	1902.
Folder 30	1909.
Folder 31	1910.

BOX THIRTY-ONE

Folder 1	1911.
Folder 2	1912.
Folder 3	1914.
Folder 4	1915.
Folder 5	1916.
Folder 6	1918.
Folder 7	Pinhole photography article in <u>Country Life</u> , (published).

Folder 8 Negatives, copies, and laser copies of exam papers (copied for A. Warwick) which contain Rayleigh's mathematical notes.

BOX THIRTY-TWO Microfilm Copies

SERIES SEVEN EXPERIMENTAL NOTEBOOKS OF THE FOURTH BARON RAYLEIGH

(Microfilm copies in Box Thirty-three.)

BOX THIRTY-THREE Microfilm Copies

(Red books and notebooks bound in individual red boxes.)

- | | |
|--------|---|
| Book 1 | No. 1 Notebook, Jun 1916-Aug 1919, (numbers 175-260):

Notes on as phenomena, including notes from literature references; discussion of will-o-the-wisps, 78 pgs. |
| Book 2 | No. 2 Notebook, Oct 1919-Oct 1925, (numbers 261-431):

Miscellaneous notes, optical experiments, polarization, 138 pgs. |
| Book 3 | No. 3 Notes of Experiments 1-336, Nov 1910-Mar 1912:

Notes on glows in gases due to electrical charge, active nitrogen studies, lines in discharge, Lewis glow, 126 pgs. |
| Book 4 | No. 4 Notes of Experiments 337-500, Mar 1912-Jun 1913:

Notes on afterglow studies, combination of gases under discharge, Phillips' effect, 101 pgs. |
| Book 5 | No. 5 Notes of Experiments 501-693, Jun 1913-Jul 1914:

Notes on experiments on electric discharge, 153 pgs. |
| Book 6 | No. 6 Glow of Phosphorus, Jan 1914-May 1923: 82 pgs. |
| Book 7 | No. 7 Notes of Experiments 694-905, Oct 1914-Sep 1916:

Notes on active nitrogen and discharge phenomena in gases, sodium resonance, 156 pgs. |
| Book 8 | No. 8 Notes of Experiments 906-1104, Oct 1916-Mar 1919:

Notes on afterglows in various gases, polarization of night sky, aurora, 170 pgs. |
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- Folder 32 Manuscript #262, "Vote of Thanks," (1936).
- Folder 33 Manuscript #263, "Richard Tetley Glazebrook," (1936).
- Folder 34 Manuscript #264, "Optical Contact," (1936).
- Folder 35 Manuscript #266, "The Surface Layer of Polished Silica and Glass with Further Studies on Optical Contact," (1937).
- Folder 36 Manuscript #267, "Mr. J.C. Straker," (1937).
- Folder 37 Manuscript #268, "On Society Opinion," (1937).
- Folder 38 Manuscript #269, "The Light Thought to Have Been Seen in the Neighborhood of Alternate Current Magnets," (1937).
- Folder 39 Manuscript #270, "An Attempt to Detect the Passage of Helium through a Crystal Lattice at High Temperatures," (1937).
- Folder 40 Manuscript #271, (Presidential Address), "The Problem of Physical Phenomena in Connection with Psychical Research," (1938).
- Folder 41 Manuscript #272, "The Question of Lights Supposed to Have Been Observed near the Poles of a Magnet," (1938).
- Folder 42 Manuscript #273, "Neon and Argon in the Earth's Crust," (1938).
- Folder 43 Manuscript #274, "The Institution of Mining and Metallurgy: Report of Speeches at the Annual Dinner," (1938).
- Folder 44 Manuscript #275, "Presentation of the Kelvin Medal to Sir J.J. Thomson," (1938).
- Folder 45 Manuscript #276, "Nitrogen and Argon in the Earth's Crust," (1938).
- Folder 46 Manuscript #277, (Presidential Address) "Part I: Vision in Nature and Vision Aided by Science, and Part II: Science and Warfare," (1938).

- Folder 47 Manuscript #278, "Some Recollections of Henry Sidgwick," (1938).
- Folder 48 Manuscript #279, "Nitrogen, Argon, and Neon in the Earth's Crust with Applications to Cosmology," (1939).
- Folder 49 Manuscript #280, "Bending of Glass under Long Continued Stress," (1940).
- Folder 50 Manuscript #281, "History of the Vacuum Flask," (1940).
- Folder 51 Manuscript #282, "History of the Vacuum Flask," (1940).
- Folder 52 Manuscript #283, "New Studies on Active Nitrogen. I. Brightness of the Afterglow under Varied Conditions of Concentration and Temperature," (1940).
- Folder 53 Manuscript #284, "New Studies on Active Nitrogen. II. Incandescence of Metals in Active Nitrogen, and Quantitative Estimates of the Energy Liberated," (1940).
- Folder 54 Manuscript #285, "McLennan: A Pioneer of Canadian Science," (1940).
- Folder 55 Manuscript #287, "Sir J.J. Thomson, O.M., F.R.S.," (1940).
- Folder 56 Manuscript #288, "Hyperaesthesia?" (1941).
- Folder 57 Manuscript #289, "Hyperaesthesia?" (1941).
- Folder 58 Manuscript #290, "Further Studies on Active Nitrogen. III. Experiments to Show That Traces of Oxygen Or Other Impurity Affect Primarily the Walls of the Vessel, and Not the Phenomena in the Gas Space," (1941).
- Folder 59 Manuscript #291, "Further Studies on Active Nitrogen. IV. The Ionization Associated with Active Nitrogen," (1941).
- Folder 60 Manuscript #292, "Sir Oliver Lodge, Obituary," (1941).
- Folder 61 Manuscript #293, "Joseph John Thomson, Obituary," (1941).
- Folder 62 Manuscript #294, "The Stone-Iron Meteorites Called Pallasites: a Synthetic Study of Their Structure and Probable Mode of Formation," (1942).
- Folder 63 Manuscript #295, "R.W. Wood of Baltimore," (1942).
- Folder 64 Manuscript #296, "Sir Joseph J. Thomson Memorial Lecture," (1942).
- Folder 65 Manuscript #297, "The Ultimate Shape of Pebbles, Natural and Artificial," (1942).
- Folder 66 Manuscript #298, "Sir William Bragg, Obituary," (1942).

Folder 67 Manuscript #299, "Newton as an Experimenter," (1942).

BOX THIRTY-EIGHT Microfilm Copies

SERIES NINE **PUBLICATIONS BY OR ABOUT THE FOURTH BARON RAYLEIGH**

BOX THIRTY-NINE

- Folder 1 Summaries and Abstracts of the Scientific Writings of R.J.S., Fourth Baron Rayleigh.
- Folder 2 Second and third copies of Summaries and Abstracts of the Scientific Writings of R.J.S., Fourth Baron Rayleigh.
- Folder 3 Life of John William Strutt, by Robert John Strutt.

SERIES TEN **MANUSCRIPTS ABOUT THE COLLECTION**

BOX FORTY Mostly Letters/Papers Written by/to John Howard Regarding the Rayleigh Collection

- Folder 1 Rayleigh distribution lists.
- Folder 2 Replies from invited persons to the Rayleigh Dedication.
- Folder 3 Letters to John Howard, 1966-1969, and newspaper clippings.
- Folder 4 Letters to/from John Howard, 1965-1972, and newspaper clippings.
- Folder 5 University of Wisconsin Press, letters to/from John Howard,(1966-1971.
- Folder 6 Unfilled requests to write Rayleigh articles, letters to John Howard, 1967.
- Folder 7 Lord Rayleigh chapter: Italy (1969-1971), and papers about Lord Rayleigh (JWS) written by John Howard.
- Folder 8 Letters about and Rayleigh article, Encyclopedia of World Biography, 1969-1972.
- Folder 9 Thank-you letters to John Howard, 1969-1972.
- Folder 10 Speeches and papers about Lord Rayleigh by John Howard, 1964-1988.

BOX FORTY-ONE

- Folder 1 Abstract and lecture for lecture series by John Howard.
- Folder 2 Correspondence regarding Rayleigh Collection, 1964-1965.

- Folder 3 Correspondence regarding Rayleigh Collection, 1966-1967.
- Folder 4 Case Institute, Rayleigh Talk, 1967.
- Folder 5 Physics Club of Chicago, Rayleigh Talk, 1967
- Folder 6 University of Wisconsin, Rayleigh Talk, 1967.
- Folder 7 URSI/PGAP, Michigan, Rayleigh Talk, 1967.
- Folder 8 University of Toronto, Rayleigh Talk, 1970.
- Folder 9 Correspondence regarding Rayleigh Collection, 1968-1970.
- Folder 10 Correspondence regarding Rayleigh Collection, 1971-1975.
- Folder 11 State University of New York, Rayleigh Talk, 1971.
- Folder 12 American Chemical Society, Washington, D.C., Rayleigh Talk, 1971.
- Folder 13 Clarkson College, New York, Rayleigh Talk, 1971.
- Folder 14 Sixth International Symposium on Acoustical Holography and Imaging: Rayleigh Talk, 1975.
- Folder 15 Rayleigh article, 1975.
- Folder 16 AGU Meeting (RJS Centennial), California, 1975.
- Folder 17 Visit of Mrs. E.B. Given, England, 1976.
- Folder 18 Correspondence regarding Rayleigh Collection, 1976+.

BOX FORTY-TWO Miscellaneous Papers and Pictures

- Folder 1 Papers regarding the dedication of the Rayleigh Collection, and papers about John William Rayleigh and his work and Robert William Rayleigh and his work.
- Folder 2 Miscellaneous papers detailing the collection and the acquisition of the collection.
- Folder 3 Pamphlets about Terling Place, an Air Force Cambridge Research Laboratories pamphlet, Astrophysics journals, and The Physics Teacher Journal.
- Folder 4 Copies of letters from unknown persons, 1875-1889, and a copy of the Chief Secretary's Lodge Dinner menu, 1888.
- Folder 5 Original letters from unknown persons, 1924-1951.

- Folder 6 Small photographs (originals) of John William Strutt and other family members, and other modern photographs of the Rayleigh Collection and librarians.
- Folder 7 Large photographs (mostly originals) of John William Strutt, Robert John Strutt, other members of the Strutt family, the laboratory, Terling Place, the Rayleigh Collection, John Howard, and the dedication of the Rayleigh Collection.

BOX FORTY-THREE Duplicates Copies of Rayleigh Writing.

(Oversize items.)

Three metal boxes containing duplicate copies of the Third Baron Rayleigh's Experimental Notebooks, rolls of correspondence, and several artifacts relating to Rayleigh's Dairies.

Large pictures filed in oversized map case: one of Terling (Rayleigh property), one of the Third Baron Rayleigh, one of the Fourth Baron Rayleigh.