

MS 2 Andrews Collection

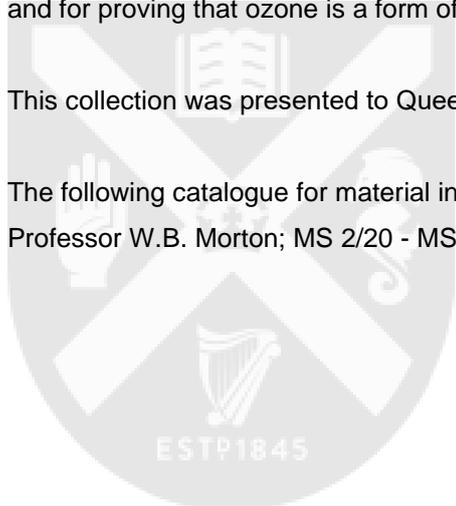
About the collection:

Chiefly a collection of scientific papers and correspondence written by, or addressed to, Thomas Andrews. These papers are mainly in Andrews' own hand or copied by his daughters, Elizabeth Andrews and Mary K. Andrews, and form part of the documents used in the preparation of *The scientific papers of the late Thomas Andrews. With a memoir by P.G. Tait and A. Crum Brown*. London, 1889.

Born in Belfast in 1813, Thomas Andrews was an eminent chemist and physicist of European reputation. Educated at the Belfast Academical Institution, he received his formal training at university in Glasgow, Paris and Dublin as well as in Edinburgh where he was awarded his M.D in 1835. He spent most of his career in the employ of Queen's College Belfast where he occupied the positions of College Vice President and Professor of Chemistry from 1849-79, being notable for his work on the liquefaction of gases, which eventually led to such inventions as the domestic refrigerator, and for proving that ozone is a form of oxygen. He died in Belfast on November 26, 1885.

This collection was presented to Queen's University Belfast by his grand-daughters in 1935.

The following catalogue for material in MS 2/1- MS 2/19 is chiefly abridged from descriptions made in 1937 by Professor W.B. Morton; MS 2/20 - MS 2/25 listed at a later date.



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MS 2/1-10 Scientific memoirs

Papers and addresses presented by their authors to Andrews; 10 bound presentation copies.

MS 2/1 **Bound quarto volume of papers**

In most cases presented to Andrews by the author; some papers authored by Andrews; several papers authored by Michael Faraday; some papers include an inscription.

Presentation plate on front board: "Presented by Miss Andrews 25th November 1920"; handwritten notes at end: "List of all my Scientific Papers".

MS 2/2 **Bound quarto volume of papers**

In most cases presented to Andrews by the author; 2 papers authored by Michael Faraday; some papers include an inscription; 1 paper in French.

Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".

MS 2/3 **Bound quarto volume of papers**

In most cases presented to Andrews by the author; 2 papers authored by Andrews; some papers include an inscription; several papers in French.

Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".

MS 2/4 **Bound quarto volume of papers**

In most cases presented to Andrews by the author; some papers include an inscription; some papers in French, some in German.

Paper entitled 'Introduction to the first volume of transactions of the Institution of Civil Engineers' (London, 1836) includes a plate with a number of signatures and bears the heading "Autographs of eminent engineers noticed in the Introduction".

Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".

MS 2/5 **Scientific Memoirs. Vol. II. Presentation Copies**

Bound volume of papers, in most cases presented to Andrews by the author; 1 paper authored by Michael Faraday; 1 paper in the form of a letter to Faraday; some papers include an inscription; some papers in French.

Presentation plate on front board: "Presented by Miss Andrews 25th November 1920"; typed note on front board records "Vol. I of this series was not presented by donor".

- MS 2/6** **Scientific Memoirs. Vol. III. Presentation Copies**
Bound volume of papers, in most cases presented to Andrews by the author; some papers authored by Andrews; several papers authored by Michael Faraday; 1 paper in the form of a letter to "My dear Mr Faraday"; some papers include an inscription; 1 paper in French; 1 paper in German.
Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".
- MS 2/7** **Scientific Memoirs. Vol. IV. Presentation Copies**
Bound volume of papers, in most cases presented to Andrews by the author; some papers include an inscription; 1 paper in German.
Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".
- MS 2/8** **Scientific Memoirs. Vol. V. Presentation Copies**
Bound volume of papers, in most cases presented to Andrews by the author; some papers authored by Andrews; some papers include an inscription; many papers in French; several papers in German.
Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".
- MS 2/9** **Scientific Memoirs. Vol. VI. Presentation Copies**
Bound volume of papers, many of which relate to agriculture; 1 paper in French.
Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".
- MS 2/10** **Scientific Memoirs. Vol. VII. Presentation Copies**
Bound volume of papers; in most cases presented to Andrews by the author; some papers include an inscription; 1 paper in French.
Presentation plate on front board: "Presented by Miss Andrews 25th November 1920".
- MS 2/11** **Four bound notebooks**
Originally in a parcel erroneously marked "Notes taken by T.A. in Paris about 1830".
- MS 2/11/1** Notebook containing lectures on Astronomy; written in a youthful hand and style.
68ff., paged 3-62, 1-40, 1-32; 190 x 155mm; pages 1, 2, 63, 64 of the first pagination and 33-36, 39-42 of the third are missing. On ff. 67 verso and 68 verso are lists of names, perhaps made by Andrews as a school monitor.
- MS 2/11/2** Notebook, similar to MS 2/11/1, entitled on the front cover "*Conic Sections and Differential Calculus*" and on the back cover "Differential Calculus and Conic Sections". The date "Friday. Sep: 26. 1828." occurs on folio 44 verso.
- MS 2/11/3** Commonplace book headed "*Note Book. A. Physics*"; contains abstracts of papers by contemporary authors from L'Institut and elsewhere.
Date range:1836-1843.

Paper watermarked "1835".

24ff.; 310 x 195mm.

MS 2/11/4 Commonplace book headed "*Note Book. B. Chemistry*"; contains abstracts of papers by contemporary authors from L'Institut and elsewhere.

Date range:1837-1840.

Paper watermarked "1835".

24ff.; 310 x 195mm.

MS 2/12 Roll containing two drawings

Handwritten note on separate page: "Original Drawings made by Mrs. Andrews for Dr. Andrews' Papers. "On the Heat developed during the formation of the Metallic Compounds of Chlorine, Bromine & Iodine" and "Heat disengaged during the Combination of Bodies with Oxygen & Chlorine". Plates I and II facing p. 94 & p. 130 of Andrews' Scientific Papers".

MS 2/13 Correspondence

MS 2/13/1-MS 2/13/13 originally in parcel marked "Copies of Letters to Dr Andrews on Scientific Problems".

MS 2/13/1 Copies of correspondence between Michael Faraday and Andrews.

MS 2/13/1/1 From Faraday to Andrews; dated 3 October 1842; Royal Institution.

MS 2/13/1/2 From Faraday to Andrews; dated 18 October 1842; Royal Institution.

MS 2/13/1/3 From Faraday to Andrews; dated 2 February 1843; Royal Institution.

MS 2/13/1/4 From Faraday to Andrews; dated 26 October 1843; Royal Institution.

MS 2/13/1/5 From Andrews to Faraday; dated 28 October 1843.

MS 2/13/1/6 From Andrews to Faraday; dated 1 December 1843; Belfast.

MS 2/13/1/7 From Faraday to Andrews; dated 19 December 1843; Royal Institution.

MS 2/13/1/8 From Andrews to Faraday; dated 11 April 1844; Belfast.

Letters MS 2/13/1/4-8 refer to Andrews' paper 'On the thermal changes accompanying basic substitutions' (*The scientific papers of the late Thomas Andrews*. London, 1889, pp. 107-128).

MS 2/13/1/9 From Faraday to Andrews; dated 20 April 1852; Royal Institution.

MS 2/13/1/10 From Faraday to Andrews; dated 14 August 1852; Royal Institution.

MS 2/13/1/11 From Faraday to Andrews; dated 30 August 1852; Royal Institution.

MS 2/13/1/12 From Andrews to Faraday; dated 4 July 1853; Queen's College Belfast.

Letter MS 2/13/1/12 refers to Faraday's letter to *The Times* on table-turning; see *Experimental researches in chemistry and physics*. 1859, p. 382.

MS 2/13/1/13 From Faraday to Andrews; dated 12 August 1856; Royal Institution; incomplete.

MS 2/13/2 Copy of letter from Sir John F.W. Herschel to Andrews; dated 21 April 1843; Collingwood.

MS 2/13/3 Copy of letter from James McCullagh (1809-1847) to Andrews; dated 19 November [postmark 1944].

MS 2/13/4 Copy of letter from C.F. Schoenbein to Andrews; dated 2 May 1847.

MS 2/13/5 **Copies of letters from Elie Wartmann.**

MS 2/13/5/1 Dated 3 January 1851; Geneva; written in French.

Letter MS 2/13/5/1 refers to the French Academy's award of 1000fr. to Andrews in 1849 (see *The scientific papers of the late Thomas Andrews*. London, 1889, p. xxiv), and to Wartmann's paper 'Sur les courants electriques qui existent dans les vegetaux', in *Archives des Sciences Physiques et Naturelles*, Vol. 15 (1850).

MS 2/13/5/2 Dated 17 January 1851; Geneva; written in French.

MS 2/13/6 **Copies of letters from Sir Edward Sabine.**

MS 2/13/6/1 Dated 1 March 1852; 11 Old Burlington Street.

MS 2/13/6/2 Dated 27 March 1852; 11 Old Burlington Street.

MS 2/13/6/3 Dated 16 November 1852; Woolwich.

MS 2/13/7 Copy of letter from Delesse to Andrews; dated 7 October 1854; Société Philomatique, Paris; written in French.

MS 2/13/8 Copy of letter from Thomas Graham (1805-1869) to Andrews; dated 25 November 1856; 4 Gordon Square.

MS 2/13/9 Copy of letter from Baron Justus von Liebig to Andrews; dated 20 June 1871; written in German.

MS 2/13/10 Copy of letter from A.W. Hofmann to Andrews; dated 30 May 1871; Frankfurt.

MS 2/13/11 **Copy of notes from Sir George Gabriel Stokes to Andrews:**

11 February 1871; Lensfield Cottage, Cambridge.

20 February 1871; Cambridge.

15 June 1871; Royal Society.

12 October 1872; Observatory, Armagh.

MS 2/13/12 Copy of letter from James Thomson (1822-1892) to Andrews; dated 8 January 1872; includes a pencil diagram.

MS 2/13/13 Notes regarding correspondence from P.G. Tait, Sir G. Stokes and Sir J. Larmor about scientific matters; on loose leaf from notebook; n.d.

MS 2/13/14 **Original letters addressed to Andrews.**

MS 2/13/14/1 Letter from William Stokes [?] to Andrews; dated 25 August 1835; 50 Park Street Dublin; with emboss mark and wax seal.

- MS 2/13/14/2 Letter from Justus von Liebig to Andrews; dated 10 November 1845; Giessen; written in German.
MS 2/13/14/3 Letter from J. Dumas, Dean of the Faculty of Science, Academy of Paris, to Andrews; dated 25 November 1845.

MS 2/14 Bundle originally marked "Dr Andrews' Papers to Lit & Phil Soc Belfast"

- MS 2/14/1** Paper entitled "Lecture in the Museum on Galvanic Magnets".
Handwritten; 22ff. 230 x 181mm.
[Read to Belfast Natural History and Philosophical Society, 6 April 1836].
- MS 2/14/2** Paper entitled "On electrical conduction".
Handwritten; 24pp. 190 x 158mm.
[Read to Belfast Natural History and Philosophical Society, 4 October 1837].
- MS 2/14/3** Paper entitled "Lecture delivered in the Belfast Museum on some recent Applications of Galvanism to the Arts – Session 1839-1840".
Handwritten; 12pp. 232 x 192mm. Incomplete.
[Read to Belfast Natural History and Philosophical Society, 6 February 1840].
- MS 2/14/4** Paper entitled "Heid. Journal 24 June. /54".
Handwritten; 8ff. 207 x 128mm.
Containing foreign news translated from newspapers, 24 June to 3 July 1854.
- MS 2/14/5** Paper on Heidelberg, without title, beginning "Among the many interesting objects which attract the attention of the traveller in Southern Germany, there are none more remarkable than the ruins of the Castle of Heidelberg...".
Handwritten; 21pp. 250 x 200mm.
[Read to Belfast Literary Society, 5 February 1855].
- MS 2/14/6** Paper entitled "On the influence of the Discovery of the American Mines on the value of money"; in envelope; note on envelope records "On the influence of the Discovery of the American Mines on the value of money read before the Belfast Literary So. Mar 8 1858 in Dr Andrews' handwriting".
Handwritten; 19pp. 338 x 219mm.
- MS 2/14/7** Paper entitled "On the Discoveries & Writings of Faraday. A sketch".
Handwritten; 46pp. 237 x 192mm.
[Read to Belfast Literary Society, 3 November 1862].
- MS 2/14/8** Paper entitled "On the Ancient and Modern Views of the Constitution of Matter".
Handwritten; 10ff. 336 x 210mm.
[Read to Belfast Literary Society, 2 February 1874].
- MS 2/14/9** Paper, without title, beginning "The disastrous war which has inflicted such serious losses on France

has at length come to an end...".

Note attached on Belfast Literary Society headed paper, dated 29 January 1874; addressed to "Professor Andrews F.R.S. Queen's College Belfast" requesting him to attend a monthly meeting of the Society and stating "The paper for the evening will be read by Professor Andrews on "The Difficulties of France; - their Cause and Remedy"".

22pp. 330 x 210mm.

[Read to Belfast Literary Society, 2 February 1874].

- MS 2/14/10** Notes entitled "Notes of an excursion from Newcastle to the "Long Brae Mountain" lying between the Diamond Rocks and Slieve Donard"; includes a pencil drawing and an ink outline map with title "Junction of granite and clay slate".
Handwritten; 4ff. 207 x 169mm.
- MS 2/14/11** Paper entitled "Notes on the Value of Money".
Handwritten; 7ff. 335 x 210mm.
See *Belfast Literary Society 1801-1901: historical sketch with memoirs of some distinguished members* (Belfast, 1902) and *Centenary volume, 1821-1921: A review of the activities of the society for 100 years with historical notes, and memoirs of many distinguished members*, Ed by Arthur Deane (Belfast, 1924).
The unpublished lectures are referred to in *The scientific papers of the late Thomas Andrews*. London, 1889, p. ix.
- MS 2/15** [Bundle of papers without title](#)
- MS 2/15/1** Report beginning "At the meeting of the Association held in Manchester in 1861 ...".
Handwritten; 6ff. 202 x 180mm.
A preliminary note dealing with the work described in the Bakerian Lecture (Scientific Papers, xxxviii, 296). No note of its communication to the British Association is to be found in the Reports between 1861 and 1869.
- MS 2/15/2** Paper entitled "On the Continuity of the Liquid & Gaseous States of Matter. By Thomas Andrews M.D. F.R.S.".
Handwritten; 18ff. 205 x 129mm., followed by a printed extract from the Bakerian Lecture of 1869, 4pp., 235 x 120mm.
An account of the research adapted for a "general audience". Paper given to the Belfast Natural History and Philosophical Society, 23 Feb. 1870, as recorded in *Centenary volume, 1821-1921: A review of the activities of the society for 100 years with historical notes, and memoirs of many distinguished members*, Ed by Arthur Deane (Belfast, 1924).
- MS 2/15/3** Bundle of sheets marked, in the hand of Mary K. Andrews, "M.S. of Part of 'Studium'".
Pencil note of first sheet records "Final draft of Studium Generale Published 1867".
- MS 2/15/4** Bundle of sheets, similar to MS 2/5/3, tied with pink ribbon and containing a rough draft of Andrews' *Studium generale: a chapter of contemporary history* (London, 1867). Many pages marked "cancelled" and the portions in no regular order.

MS 2/16 Parcel marked by Mary K. Andrews

“Important. Manuscripts, Proofs, Calculations of “The Gaseous State of Matter” (Final m.s. in Archives of the Royal society.) Copy of Prof. Clerk Maxwell’s Report”.

MS 2/16/1 Paper with heading “Preliminary Notice of Further Researches on the Physical Properties of Matter in the Liquid and Gaseous States under varied Conditions of Pressure and Temperature”.
Handwritten. 10ff. 250 x 200mm.
Draft of paper XLVII, *Proceedings of the Royal Society*, Vol. 23, p. 514 (1875).

MS 2/16/2 Incomplete draft related to MS 2/16/1, without title.
Handwritten. 6ff. 250 x 200mm.

MS 2/16/3 Notes entitled “Note of Formula for Calibration of small irregular piece at sealed End of tube” includes a hand drawn diagram.
Handwritten. 2ff. 256 x 205mm.

MS 2/16/4 Rough draft of a summary of unidentified paper beginning “After referring to certain modifications in his former method of working...”.
Handwritten. 4ff. 338 x 210mm.
Folio 4 is a fragment of the second Bakerian Lecture of 1876 (*Philosophical Transactions*, 1876, p. 421).

MS 2/16/5 Laboratory readings and calculations.
Handwritten. 8ff. 340 x 210mm.

MS 2/16/6 Paper with heading “The Bakerian Lecture. On the Gaseous State of Matter. By Thomas Andrews M.D., L.L.D., F.R.S., Vice President of Queen’s College, Belfast”.
Copy of the second Bakerian Lecture in the hand of Elizabeth Andrews.
55ff. 330 x 193mm.

MS 2/16/7 Corrected proof of MS 2/16/6, with attached sheet of instructions to the printer in Thomas Andrews’ hand.
17ff. 238 x 181mm. & 288 x 222mm.

MS 2/16/8 Notes mainly relating to apparatus requirements, headed “6. Apparatus for determining the amount of heat produced ...”.
Handwritten. 2ff. 229 x 180mm.

MS 2/16/9 List of errata, in the hand of Mary K. Andrews.
2ff. 238 x 192mm.

MS 2/16/10 Report headed “Report on Dr Andrews’ paper “On the Gaseous State of Matter””; in a wrapper

inscribed "Copy of Prof. J. Clerk Maxwell's Report on Dr. Andrews' paper "On the Gaseous State of Matter"".

Handwritten. 7ff. 317 x 183mm.

MS 2/16/11 Brown paper wrapping which originally contained the papers in the MS 2/16 bundle, with inscription in hand of Mary K. Andrews "Important. Manuscripts, Proofs, Calculations of "The Gaseous State of Matter" (Final m.s. in Archives of the Royal society.) Copy of Prof. Clerk Maxwell's Report"; in poor condition.

MS 2/17 **Article and draft by P.G. Tait**

MS 2/17/1 Proof of part of an unpublished article by P.G. Tait, intended for the *Proceedings of the Royal Society of Edinburgh*, and headed "From Dr Andrews' "Notes of Experiments" (MSS.), Vol. VII. Book 9"; together with board with address label to "The Librarian, Queen's University, Belfast, Ireland". [See *Nature*, Vol. 59, pp. 318, 503 (1899), and *Proceedings of the Royal Society of Edinburgh*, Vol. 30, pp. 1-23 (1910)].

MS 2/17/2 **Envelope inscribed "Original Draft by Professor Tait of what he probably intended to be the opening paragraphs of his projected paper regarding Dr. Andrews' measurements of comparative compression of air & of Carbonic Acid at various temperatures"; with contents, all single leaf:**

MS 2/17/2/1 Explanatory note handwritten by Mary K. Andrews.

MS 2/17/2/2 P.G. Tait's manuscript relating to above title.

MS 2/17/2/3 Typed copy of MS 2/17/2/2, with introductory note by C.G. Knott.

MS 2/17/2/4 Handwritten letter from C.G. Knott to Mary K. Andrews; dated 14 October 1910; 42 Upper Gray Street, Edinburgh.

MS 2/17/2/5 Offprint of C.G. Knott's supplementary note to the paper 'Andrews' measurements of the compression of Carbon Dioxide and of mixtures of Carbon Dioxide and Nitrogen'. [Proceedings of the Royal Society of Edinburgh, Vol. 30, p. 290 (1910)].

MS 2/18 **Parcel primarily containing drawings**

Parcel marked "Very valuable Working Drawing. of Dr. Andrews' Contemplated Apparatus for determining true pressures, also Drawings of Curves of Mixed Gases.

Drawing of 1869 Bakerian Lecture Curves. With apparatus marked by T. Andrews with pin pricks.

Copy of Prof' Clerk. Maxwell's Report on T. Andrews' 1876 Bakerian Lecture".

Parcel tied with pink ribbon.

MS 2/18/1 **Packet inscribed "Large Drawings of Curves for Mixed Gases Reductions from which have gone to Dr. Knott May 1910/02".**

[The drawings illustrate paper 60 in *Scientific Papers*, pp. 457-471].

Packet contains the following:

- MS 2/18/1/1 Explanatory note handwritten by Mary K. Andrews.
- MS 2/18/1/2 Fig. 1. Diagram in rough form with note beginning "Curves showing compressibility of a mixture of 3.00 vol carbonic acid and 4.03 nitrogen..."; hand drawn in ink.
- MS 2/18/1/3 Fig. 1. Larger scale of diagram in MS 2/18/1/2, smoothed for reproduction; drawn in pencil and ink.
- MS 2/18/1/4 Fig. 2. Rough sketch in ink, large scale; handwritten note states "Same scale as plate in 1st Bakerian Lecture".
- MS 2/18/1/5 Fig. 2. Rough sketch in pencil, large scale.
- MS 2/18/1/6 Fig. 2. Reduced, as published; hand drawn in ink.
- MS 2/18/1/7 Fig. 3. Hand drawn in pencil and ink.

MS 2/18/2 Packet inscribed "Very Valuable Working Drawings of Dr. Andrews' Contemplated Apparatus for determining true pressures. Also Drawings of Curves of Mixed Gases"; only front board of packet remaining; dated 8th January 1898.

Contents of original packet [the descriptions, where quoted, are by Mary K. Andrews unless otherwise stated]:

- MS 2/18/2/1 "Dr. Andrews' working drawing of part of proposed apparatus for determination of true pressures"; large scale, hand drawn in pencil.
- MS 2/18/2/2 Envelope, originally addressed to Professor Tait, Edinburgh, post stamped 1988; handwritten note inscribed on envelope face "Mem. By Dr. Everett regarding his recollections of Dr. Andrews' projected apparatus for measuring very high pressures".
Envelope contains the following
"Memorandum by Prof. Everett. Nov. 12, 1888." 3ff.; with two diagrams on separate sheets; all in J.D. Everett's hand.
Rough pencil diagram by Andrews, on the back of a paper containing notes on organic chemistry. 2ff.
- MS 2/18/2/3 "Large drawing of Carbonic Acid Curves. Nearly all reproduced in Dr. Andrews' Bakerian Lecture for 1869 "On the continuity of the gaseous and liquid states of matter". See published Volume of T. Andrews' "Scientific Papers" p. 308 experiments noted by pin pricks"; calibration curve on verso.
- MS 2/18/2/4 Envelope inscribed "Private. Report on Dr. Andrews' Paper "On the Gaseous State of Matter" (this paper formed the Bakerian Lecture of 1876) Royal Society"; envelope contains a transcript of J. Clerk Maxwell's report recommending publication (*Scientific Papers*, No. 49, pp. 418-456). 8ff.; ff. 1-4 in the hand of Elizabeth Andrews, ff. 5-8 in that of Mary K. Andrews.

MS 2/19 Assorted manuscript material including early notes taken in Paris 1836

MS 2/20 18 bound notebooks

Chiefly copied from Thomas Andrews' notebooks, relating to experiments, tables and calculations.

- MS 2/20/1** From Thomas Andrews' Notes of Experiments Vol. I- Vol. IV.
Date range: 1836-1855.

220 x 140mm; red softback.

- MS 2/20/2** From Thomas Andrews' Notes of Experiments Vol. V- Vol. VII; with some hand drawn diagrams pasted in.
Date range: 1855-1869.
220 x 140mm; red softback.
- MS 2/20/3** Note on front cover reads: "Extracts from Dr. Andrews' Bound Notes of Experiments Vol. VII 1860-1869. From beginning of Vol. VII Book 1 down to Book 3 as far as Oct 9, 1862- continuation in another book".
One loose leaf; one hand drawn diagram pasted in.
Date range: 1860-1862.
225 x 175mm; hardback.
- MS 2/20/4** Note on front cover reads: "Précis of Vol. VII of Dr. Andrews' Notes of Experiments (continued in another book) preceded by 2 pages from Vol. VI".
Date range: 1860-1868.
230 x 175mm; black softback.
- MS 2/20/5** Note on front cover reads: "Précis of part of Book VI. Contents of Vol VII Notes of Experiments Books 1-14. Constants for air & CO₂. p.1."
Date range: 1867-1869.
255 X 205mm; softback.
- MS 2/20/6** Note on front cover reads: "Précis of parts of Books 4, 6, 7, 8, 9- Notes regarding references to the Experiments in the Tables of The Bakerian Lecture for 1869 "On the continuity of the Gaseous & Liquid States of Matter".
Loose letters to Professor Tait inserted, dated 1899.
Date range: 1868 [letters 1899].
230 x 180mm; hardback.
- MS 2/20/7** Note on front cover reads: "Continuation of précis of Dr. Andrews' VIIth Vol. Notes of Experiments March 30 '68- April 5 '68".
Date range: 1868-1869.
205 x 165mm; red softback.
- MS 2/20/8** Note on front cover reads: "Précis of Dr. Andrews' Unbound Blue Note Books 14- 27. Relating chiefly to experiments in Bakerian Lecture of 1876 and in the posthumous paper published in 1887".
Date range: 1869-1876.
230 x 180mm; hardback.
- MS 2/20/9** Note on front cover reads: "Extracts from Dr. Andrews' unbound Note Books. Book 14-27 No. 445

continued in another book".

Date range: 1869-1876.

205 x 165mm; red softback.

MS 2/20/10 Note on front cover reads: "Extracts from Dr. Andrews' unbound Note Books. Book 14- Book 27. no. 467. Feb 2, '70- Jan 10 '77".

[These notebooks have since been bound and now form Vol. VIII].

Date range: 1869-1877.

205 x 165mm; red softback.

MS 2/20/11 Note on front cover reads: "From Note Book 16. 1870. Details of Exp^{ts} in the Tables of the late Dr. Andrews' paper "On the Properties of Matter in the Gaseous and Liquid States under Various Conditions of Temperature and Pressure"- Phil Trans. Royal So London Vol. 178 (1887) A.p.p. 45-56. & references to experiments in latter part of paper from Note Books 21 and 27".

Date range: 1870.

230 x 180mm; softback.

MS 2/20/12 Note on first page reads: "From Dr. Andrews' "Notes of Experiments" Vol. VIII. Book 24.

1875 Feb 22 to March 31

Pressure Experiments- Tubes newly fitted.".

Date range: 1875.

220 x 165mm; red softback.

MS 2/20/13 Note on front cover reads: "Book 27- from 467 to end. Jan 10, '77- Feb 9, '77".

Date range: 1877.

205 x 165mm; red softback.

MS 2/20/14 Note on front cover reads: "Resumé Book 27. No. 446 to end- 449 to end mixture Nit1. CO₂ 3.43

and Appendix 1- From 490 to end of Pressure exp^{ts} recopied almost in extenso

Appendix 2. Expansion of 11.CO₂ and /Air [?]".

Date range: 1877.

205 x 165mm; red softback.

MS 2/20/15 Note on front cover reads: "Notes for Future Work"; several loose pages inserted.

255 x 200mm; hardback.

MS 2/20/16 Note on front cover reads: "Experiments in Tables of The Bakerian Lecture for 1876. "On the Gaseous State of Matter"".

n.d.

230 X 180mm; softback.

MS 2/20/17 Title on paste-down endpaper and spine: "Catalogue of Dr. Andrews' Apparatus in Queen's College, Belfast".
n.d.
220 x 180mm; hardback.

MS 2/20/18 Title on page 3 reads: "The Recollections of Past Life, by Sir Henry Holland, Bart. President of the Royal Institution of Great Britain: Physician in ordinary to the Queen. 1872".
225 x 180mm; green softback.

MS 2/21 5 Offprints

Offprints of papers authored by Andrews.

MS 2/21/1 "XVIII. The Bakerian Lecture- On the continuity of the Gaseous & Liquid States of Matter. By Thomas Andrews, M.D., F.R.S., Vice President of Queen's College, Belfast.
Received June 14- Read June 17, 1869."
16pp.; 1 plate.

MS 2/21/2 "The Bakerian Lecture- On the continuity of the Gaseous & Liquid States of Matter. By Thomas Andrews, M.D., F.R.S., Vice President of Queen's College, Belfast. From the Philosophical Transactions- Part II. For 1869."
16pp.; 1 plate. As MS 2/21/2 with annotation and title page.

MS 2/21/3 "Expériences à hautes pressions sur les gaz par M. Andrews."
4pp. in French.
9 August 1875.

MS 2/21/4 "[From the Philosophical Transactions of the Royal Society, vol. 166, pt. 2]
XV11. The Bakerian Lecture- On the Gaseous State of Matter. By Thomas Andrews, M.D., L.L.D., F.R.S., Vice- President of Queen's College, Belfast.
Received April 19- Read April 27, 1876."
29pp.

MS 2/21/5 "Philosophical Transactions of the Royal Society of London. Vol. 178 (1887), A, pp.45-56. On the Properties of Matter in the Gaseous and Liquid States under Various Conditions of Temperature and Pressure. By the late Thomas Andrews, M.D., L.L.D., F.R.S."
12pp.

MS 2/22 Loose papers

MS 2/22/1 Loose pages, some clipped together, and tied with ribbon, with note, "Tables of Dr. Andrews' Second Bakerian Lecture 1876"; handwritten.

MS 2/22/2 Loose pages clipped together and tied with ribbon, with note, "Regarding 'marks' on tubes"; handwritten.

MS 2/22/3 Loose pages tied with ribbon; handwritten.

MS 2/22/4/1- 41 Assortment of loose papers, some clipped together, containing notes, calculations, drawings and tables; all handwritten.

MS 2/23/1-16

Scientific papers and articles

Collection of 16 individual journal issues, articles and scientific papers, in many cases presented to Andrews by the author; many papers include an inscription; a number of items in German; 1 paper in French; 1 paper in Italian; 1 paper in Swedish.

MS 2/24 Box file

Containing an assortment of handwritten notes, calculations, tables and experiments, some clipped together, some bundled and tied with ribbon; box also contains offprints of 4 papers authored by Andrews.

MS 2/25 Photographs

MS 2/25/1 Black and white photograph, mounted and fronted with glass, of apparatus. Handwritten note in photograph begins, "3.4.56 Apparatus employed by Dr Andrews in his experiments on the amount of heat disengaged in the combination of hydrogen....".
255 x 195mm.

MS 2/25/2 Black and white photograph, mounted and fronted with glass, of apparatus.
255 x 150mm.

MS 2/25/3 Same photograph as MS 2/25/2, mounted on card.
215 x 165mm.

MS 2/25/4 Black and white photograph, mounted and fronted with glass, of apparatus.
240 x 210mm.

MS 2/25/5 Black and white photograph, mounted and fronted with glass, of large piece of equipment in grounds of Queen's University Belfast.
255 x 205mm.

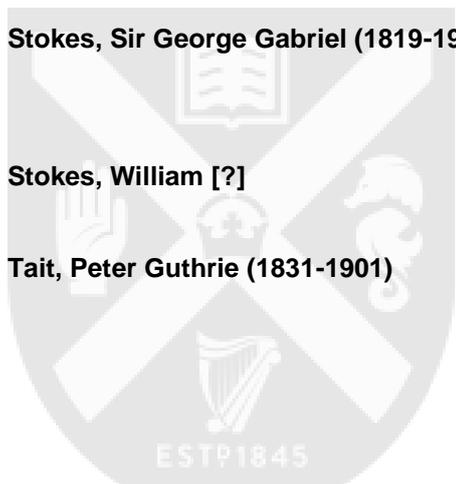
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