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28453 NATIONAL MOISTER

FERGUSON, William Bates (1853-1937)

Papers of W.B. Ferguson / W.B. Ferguson, London. ca. 1899-1936 3 boxes. $38 \times 28 \times 13$ cms.

Correspondence and notes on the Ferguson density meter, Ferguson's slide rules for calculating times of Development for photographic negatives; correspondence, notes and minutes of meetings of the British National Committee for standardisation of Photographic Sensitometry; Reports and communications of the British Photographic Research Association; Correspondence and articles relating to the Hurter and Driffield memorial volume and their work on photographic sensitometry.

W.B. Ferguson was born in Manchester and took a degree at Oxford in 1874 in Natural Science. In 1882 he was called to the Bar and made Queen's Counsel in 1900 but had to retire shortly afterwards because of his wife's ill health.

He joined the Royal Photographic Society in 1895 and was made a Fellow in 1900 following the publication of his paper on copper toning.

For the sake of his wife's health Ferguson moved to Switzerland and established a small laboratory in Arosa to study photographic development times. He published his first paper on this subject in 1905 "Control of the Development Factor at Various Temperatures". After his return to England in 1906 he became interested in the measurement of photographic density and developed the Ferguson Read reflection density meter in 1934. He was involved in the British National Committee for standardisation of Photographic Sensitometry and was invited to produce the Hurter and Driffeld memorial volume of the Journal of the Royal Photographic Society.

The papers of W.B. Ferguson were donated to the museum and transferred to the Library in 1982. Little is known of their provenance.

There are no restrictions on access to the Collection. The usual regulations apply regarding photocopying, photographing and reproducing items from the collection.

List Available

Archives: FERG

PHOTOGRAPHIC SENSITOMETRY / PHOTOMETRY.

Inv No. 1985-1306 ScM Library Room 411 No Exhibition Record No Conservation Record.

Science Museum Library

South Kensington, London

The Papers and Pamphlets of W.B. Ferguson 1853-1937.

chives: FERG

lliam Bates Ferguson worked on sensitometry, negative density measurement and me calculation of development times for film. He was involved in the British Sensitometry Standardisation Committee and was invited to produce the Hurter and Driffield memorial volume of the Journal of the Royal Photographic Society.

Ferguson was born in Manchester in 1853 and took a degree at Oxford in 1874 in Natural Science.

In 1882 he was called to the Bar and made Queens Counsel in 1900 but had to retire shortly afterwards because of his wife's ill health.

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established a small laboratory in Arosa Switzerland to study development mes and published his first paper on this subject in 1905 "Control of the Development Factor at Various Temperatures". After his return to England in 1906 he became interested in the measurement of photographic density. He produced his New Bar Photometer for Measuring Densities by Non Parallel Rays in 1912. This was followed by the Ferguson Renwick Bar Photometer in 1914 and the Ferguson Renwick Benson Photometer in 1924. A modified FRB density meter working with constant illumination appeared in 1927 and the Ferguson Read reflection density meter was worked out in 1934.

boxes]

W.B. Ferguson Collection. Archives: FERG Contents

- 1. W.B. Ferguson's Personal Correspondence and Family Papers.
 - 1. Correspondence
 - 2. Family Items
 - 3. Photographs
 - 4. Printed Biographical Details
- 2. Ferguson's Work on Photography
 - 1. The Ferguson Density Meter, drawings, papers and correspondence.
 - 2. Times of Development and Times of Appearance for negatives, notes, graphs and slide rules.
- Ferguson's connection with the British Sensitometry Standardisation Committee 1925-1937.
 Correspondence, Reports and Minutes of Meetings
- 4. Ferguson's connection with the British Photographic Research Association. Reports, Printed communications and correspondence in Ferguson's possession.
 - 1. Memorandum and Articles of Association
 - 2. Annual Reports
 - 3. Communications of the BPRA Laboratory
 - 4. Set of [confidential] reports and literature summaries issued by the Director of Research of the BPRA
 - 5. Correspondence about the discontinuance of the RPRA grant.
- Hurter and Driffield material presumably used by Ferguson in the compilation of the Hurter and Driffield memorial volume of the Journal of the Royal Photographic Society.
 - 1. Hurter and Driffield Bequest Manuscript Indexes
 - 2. Articles by Hurter and Driffield published as off prints
 - 3. Manuscript Note [by F Hurter]
 - 4. Printed articles about Hurter and Driffield.
 - Copies of the Abney/Hurter and Driffield Correspondence on the accuracy of their respective photometers.
- Miscellaneous offprints concerned with various aspects of photography.
 - 1. Periodicals
 - Booklets

1. W.B. Ferguson's Personal Correspondence and Family Papers.

1./1. Correspondence.

- 1. [1887?] Jan 4th [Letter from] 20 North Great George's Street.,
 Dublin. M.C. Ferguson [to] Mr. Ferguson [WB]
 3 Plowden Buildings, Temple, London EC.
 Thanking for photograph of Ferguson in
 QC gown and enclosing copy of the Archbishop's
 address delivered at St. Patrick's
 Cathedral at the funeral of Sir Samuel
 Ferguson 1886 August.
- 2. 1909 Nov 27 [Letter from] the Northern Whig Office, Belfast,
 Joseph L.G. Fisher [to] Ferguson [WB]
 Suggesting a commemoration of the
 work of Sir Samuel Ferguson, "your
 illustrious relative".
- 3. 1912 Feb 14 [Letter from 37 Bradenell(?) Road,
 Hyde Park, Leeds, Gerald Ferguson to
 Millie
 Announcing the death of father on Jan 31.
- 4. 1933 April 10 [Letter from] 22 Bloomsbury Street, London, G. Graghigan(?) [to] Mr. Ferguson [WB] complaining of the weather and mentioning the rule for publication in the British Journal of Photography
- 5. 1933 April 26. Letter from l Hereford Retreat, Peckham
 SF15 [to] Mr. Ferguson [WR] 48 Compagne
 Gardens, London NW16.
 Giving news of his injured foot after a
 fall and thanking Ferguson for the kindness
 shown to him.

1./2. Family items

- 1. 1853 Aug Engraving: Mrs. Ferguson's Hotel Bridge of Turk W.S. Bonet Aug 1852/W. Banks sc Edinr. [Heavily foxed]
- 2. 1853 Sept 20 Certificate of Baptism of William Bates, son of Pearson Biggs and Harriet Ferguson of Ardwick. Born 1853 Aug 10, Baptised 1853 Sept 20.
- 3. 1860 Jan 28 Certificate admitting Pearson Biggs Ferguson [WB's father] to be lieutenant in the 33rd Lanchashire Rifle Volunteers

- 4. 1890-1893 Notebook entitled "Photographs 1890-1891, 1892, 1893" containing a list of Photographic prints of Italian subjects in the collection of W.B. Ferguson.
- 5. [1903?] Printed list of Pupils of Dr. Watts who won distinctions in Physical Science 1868-1902 Includes W.B. Ferguson in 1871.
- 6. 1905 April 24. Invitation from Mr. and Mrs. W.B. Ferguson to the marriage of their daughter Roma to Sydney Read at St. James' Church, West Hampstead NW6. Includes Order of Service.
- 7. 1908 Oct 10. Burial Plot Number Card for Hugh Ferguson issued from Mount Jerome Harolds Cross, Dublin.
- nd. Newspaper clipping announcing the death of Lady Ferguson wife of Sir Samuel Ferguson.
- 9. 1896-1912 The clan Ferguson [3 items].

1./3. Photographs

- nd. Sir Samuel Ferguson.
- nd. W.B. Ferguson in QC gown.
- 3. nd. Tomb of Sir Samuel Ferguson 5 prints.
- nd. Negative of 3 men and 1 woman curling in Arosa Switzerland.

1./4. Printed Biographical Details.

- 1. 1928 May 19. Published in The New Photographer page 178
 Biographical details of W.B. Ferguson.
 No. 4 in the second series of articles on Photographic Personalities
- 2. 1937 OCT 16. Published in The Law Journal vol LXXXIV page 259
 Obituary of Mr W.B. Ferguson, K.C.
- 3. 1937 Dec Reprinted from the Photographic Journal vol LXXVII p687-691
 Obituary of William Bates Ferguson, K.C.
 M.A. (Oxon) F.I.C. Hon F.R.P.S. by S. Read with letter from Christchurch Oxford
 T. Armstrong to Mrs. Read 1951 March 4 returning article by S. Read on W.B. Ferguson

2.Ferguson's Work on Photography

2./1. The Ferguson Density Meter.

Drawings, papers and correspondence relating to the Ferguson Density Meter - chiefly the Ferguson Read Reflection Density Meter of 1934.

1. nd

4 drawings in ink on foolscap graph paper of the Density Meter V
a)Plan, Side and End Elevations of Prism and Sight Tube Box.
b)End Elevation and Side Elevation of the Box showing how the card is secured - Double page.

c)Plan and Side Elevation of the Pressure Bar.
d)Elevation showing rebates and hole on side

of Box.

2. 1924 Jan 15

Letter from Fairbrother and Bowes Ltd.,
9 Farringdon Avenue, London EC4

[to] W.B. Ferguson
Enclosing an estimate for making a second
Ferguson Density Photometer

3. 1932 Feb 6-7

Draft paper, mss. Reflection Densities [signed] W.B. Ferguson Rome 6 Feb 1932 with a postscript 7 Feb 1932.

10 pages. includes diagram of the Ferguson Read Density Meter.

4. 1932 Feb 9

Notebook containing 3 pages of manuscript notes [by WB Ferguson] on Calculations re (Ferguson-Read) Reflection Density Meter headed "Roma V" - Pensione Pirri, Palazzo Moroni, 9 February 1932".

5. [1935 June].

Manuscript Notes on Sensitometry [by WB Ferguson] 8p.
With a copy of the IX Congress International de Photographie Scientifique et Appliquee, Resumes de Memoires parvenus au Comite d' Organisation avant le 12 Juin 1935, offert aux membres du Congres par la Revue Science et Industries Photographiques Includes article by H. Tardy of Johin and Yvon on Sensitometre automatique a eclairement variable.

- 2./2. Times of Development and Times of Appearance for negatives. Ferguson's notes, graphs and slide rules for calculating Times of Development.
- 1. nd 3 typed and 1 mss copy entitled Ferguson's Development Calculator, A Slide Rule for Times of Development at Various Temperatures. 2p.
- Two graphs in folder marked lantern Slides showing
 a) variation of speed with range in the
 development of photograph plates.
 b) Table of products of various Watkins Factors
 and various times of Appearance to save
 Time of Development.
- 3. nd Five home made slide rules [devised by WB Ferguson] for calculating Times of Development and Times of Appearance for photographic images.
- 4. 1925 Aug 8 Letter from 12 Irton Road,
 Southport, D.E. Benson to W.B. Ferguson
 48 Compayne Gardens, South Hampstead,
 London NW6
 Enclosing and discussing 4 photographs of
 Benson's exposing machine.

3. The British Sensitometry Standardisation Committee 1925-1937

WB Ferguson was a member of the British Sensitometry Committee formed to investigate and recommend standards for the determination of the sensitivity of commercial photographic negative materials. His papers contain copies of letters and reports produced by this committee.

- 1. 1925 May 8 Uncorrected Proof p47-49
 Report of the Conference on the Standardisation of Plate Testing Methods.
 Stamped Harrison + Sons Ltd, Printers,
 St. Martins Lane
- 2. 1925 Nov 17 Letter typed from Royal Photographic Society
 35 Russell Square London WCl, Olaf Bloch
 [to] WB Ferguson 48 Compayne Gardens,
 S. Hampstead NW6.
 Discussing suggested changes in
 standardisation of plate testing methods
- 3. 1926 Jan 12 [Letter typed from] Royal Photographic Society
 35 Russell Square, London WCl, Olaf
 Bloch [to] WB Ferguson 48 Compayne
 Gardens S. Hampstead NW6
 Enclosing American Committee's report on
 standardisation
- 4. 1926 March 5 [Letter typed from] Royal Photographic Society
 35 Russell Square, London WC1, Olaf
 Bloch [to] Sir [WB Ferguson],
 Enclosing Professor Fabry's criticism
 of the American Committee's report and Mr
 Cuild's report on the transmission of filters
 for standardisation purposes,
 with 6 diagrams.
- 5. [1931] Report of the British National Committee for Standarsisation of Photographic Sensitometry 5p. Foolscap typed.
- 6. 1932 Feb 27 [Letter typed from British National Committee for the Standardisation of Photographic Sensitivity, S.O. Rawling [to] Sir [WB Ferguson]
 Enclosing minutes of last meeting and a draft report on the Cerman proposals for a standardised commercial method of measuring speed.
- 7. 1932 Feb 15 [Copy typed of] minutes of meeting of British Committee for Standardisation of Sensitometry

- 8. [1932 March] Report of the British National Committee for standardisation of Photographic Sensitometry on proposals for a standard method for the determination of the sensitivity of commercial photographic negative materials. 4p.

 Typed (a 2nd copy).
- 9. 1934 July 10. Letter typed from Eastman Kodak Co. N.Y.
 Walter Clark to W.B. Ferguson 48
 Compayne Gardens, South Hampstead NW
 Has read article by Ferguson on DIN
 speed marking for plates and film in the
 British Journal of Photography and is
 enclosing translation of German Standards
 Sheet DIN4512 of 1934 Jan together with
 the original.
 Includes article by WB Ferguson on the DIN
 speed marking for the Plates and Film.
- 10. 1934 July 31. Letter typed from Kodak Ltd, Middlesex
 E.R. Davies [to] WB Ferguson 48
 Compayne Gardens, South Hampstead NW.
 Enclosing copy of letter sent to Editor of the
 BJ and dealing with the criticism of the DIN system
 raised by Baines and Moore
- 11. 1935 Feb 28. Copy, typed, of Agenda for meeting of the British National Committee for Standardisation of Photographic Sensitometry to be held on March 20.
- 12. 1935 Mar 8 [Letter typed copy from Royal Photographic Society 35 Russell Square, London, S.O. Rawling [to] Mr Ferguson [WB] enclosing translation of the specification of the DIN system relating to the testing of negative material for pictorial photography and estimation of light sensitivity
- 13. 1935 Mar 9. [Letter, typed copy, from Royal Photographic Society 35 Russell Square, London, S.O. Rawling [to] Mr Ferguson [WR]

 Asking for suggestions of points to be considered in view of German committee having introduced the DIN system for commercial testing of photographic materials.
- 14. 1935 Mar 11 Typed copy of points raised by British Sensitometry Committee on the DIN 4512 Specification 2p.

- 15. 1935 Mar 30 [Letter typed from Royal Photographic Society 35 Russell Square, London, S.O. Rawling [to] WB Ferguson, 48 Compayne Gardens, South Hampstead NW6 Enclosing minutes of meeting held on Wednesday March 20.
- 16. 1935 April 17. Letter, typed copy, from Royal Photographic Society, [to] [WB Ferguson] enclosing report of a discussion of the DIN Specification at meeting of March 20
- 17. 1935 May 14 Note, Typed copy from Royal Photographic
 Society [to WB Ferguson]
 Enclosing minutes of meeting held May 2,
 notes on Report of Discussion on DIN of March 20,
 and notice of proposals to be put before
 [International] Congress by Poland and Holland
- 18. 1935 May 28. [Note, Typed copy, from Royal Photographic Society S.O. Rawling [to WB Ferguson]
 Announcing meeting of committee on June 6.
- 19. [1935 May 31] [Copy, typed, of an examination of the alternative proposals by GS Moore and H Baines for the determination of photographic speed. 5p.
- 20. 1935 June 15 [Letter, typed, from Royal Photographic Society 35 Russell Square, London, WCl, SO Rawling [to] WB Ferguson, Hotel Baren, Baden, Aargenau, Switzerland.

 Enclosing draft of proposals to be made on behalf of the committee at the IX International Congress of Photography.
- 21. 1935 Resolution of the IX Interantional Congress on the Sensitvity of Negative Photographic Materials, typed 4p
- 22. 1936 Jan 31. Note, typed copy, from Royal Photographic Society SO Rawling [to WB Ferguson]
 Announcing meeting of the British Sensitometry Committee on Feb 13 and enclosing German report on the British Committee's recommendations and a letter from R. Luther of the German Committee
- 23. 1936 March 27 [Note, typed copy, from Royal Photographic Society S.O. Rawling [to] Sir [WB Ferguson]
 Enclosing draft minutes of a committee meeting of Feb 13 and asking for comments.

- 24. 1936 April 18 Note, typed copy, from Royal Photographic Society S.O. Rawling [to WB Ferguson]
 Advising of meeting on April 30 and enclosing minutes of meeting held on Feb 13 and a copy of a report on a conversation between the secretary of the British Sensitometry Committee and Mr. Good of the British Standards Institution as to setting up a fully representative body for dealing with photographic industry sensitometry.
- 25. 1936 April 30 Agenda, [typed copy], for British Sensitometry Committee meeting on April 30
- 26. 1936 May 7 Note, typed copy from Royal Photographic Society SO Rawling [to WR Ferguson]
 Enclosing draft copy of suggested letter to the Council on the BSI proposals for acceptable commercial standards
- 27. 1936 Dec 21. Letter, typed copy, from

 Associated Photographic Plate and Paper

 Manufacturers, Cassio Phgotographic

 Paper Co., Ltd., Cassio Bridge, Watford, Herts.

 Edward Smith [to] [SO Rawling] Royal

 Photographic Society, 35 Russell Square, London

 Expressing views about the proposed commerical

 application of a sensitometry system.

- 28. 1936 Dec 29

 Letter, typed copy from Royal Photographic Society S.O. Rawling, to WB Ferguson, 48 Compayne Gardens, Hampstead NW.

 Advising of meeting on Jan 18 to discuss the letter written by Associated Photographic Plate and Paper Manufacturers and the views of the American Sensitometry Committee on the International Standards Association
- 29. 1937 Feb 9

 Letter, typed copy, from Royal Photographic
 Society, 35 Russell Square, London JW Glassett
 [to] WB Ferguson.

 Enclosing minutes of meeting held on Jan 18,
 copies of proposals on the ISA and report on the
 British Photographic Manufacturers and
 Standardisation
- 30. 1937 Feb 11 [Letter, typed copy,] from Royal Photographic Society
 JW Glassett [to] Mr Ferguson [WB]
 Enclosing copies of the BSI pamphlets numbers
 2572 and 2573 defining the unit of Candle Power
 and the Photometric Scale
- 31. 1937 Feb 15 Letter, typed, from Elliott and Sons Ltd., Barnet, Herts, [to] WB Ferguson, 48 Compayne Gardens, South Hampstead, thanking him for comments on the BSI papers.
- 32. 1937 April 1 [Notice, typed copy, from Royal Photographic Society JW Glassett [to WB Ferguson]
 Enclosing copies of letters from A Huber the ISA General Secretary to the National Standardising Bodies. 1936 Sept 29 and 1937 March 15 and Agenda for meeting on April 7th. copy

- 4. British Photographic Research Association, Reports and correspondence in the possession of WR Ferguson.
 - 4./1. 1918 May 5 Memorandum and Articles of Association Registered 1918 May 5.
 - 4./2. 1923-1924 Copies of the BPRA Annual Reports. 1927-1928
 - 4./3. Communications of the British Photographic Research Association Laboratory. Nos 1-2, 4-6, 8-14, 16-35, 39-47, 50, 54-59, 61-62, 68-70, 72-73.
 - 1. 1919 April 29 Reprinted from the Transactions of the Faraday Society Vol XV Part I Contrast and Exposure in X-Ray Photographs through Metals by R.E. Slade. 8p
 - 2. 1919 July Reprinted from the Philosophical Magazine vol xxxviii

 The Fundamental Law for the True Photographic Rendering of Contrast by Alfred W. Porter and R.E. Slade p187-197
 - 3. missing
 - 4. 1920 March 9 Lecture deleivered before The Royal Photographic Society of Great Britain, published London Photomicrography in Photographic Research by G.I. Higson 6p plus 10 figs.
 - 5. 1920 April Reprinted from the Photographic Journal The Photometric Constant by GI Higson 3p.
 - 6. 1920

 Reprinted from the Proceedings of the Royal Society A, vol 97

 A New Method of Spectrophotometry in the Visible and Ultra violet and the Absorption of light by Silver Bromide by RE Slade and FC Toy p181-190.
 - 7. missing

Ferguson

8. 1920 June	Reprinted from the Photographic Journal 1920 A Simple Non-Intermittent Exposure Machine by G.I. Higson
9. 1920	Reprinted from the Proceedings of the Royal Society, A, vol 98 Photochemical Investigations of the Photographic Plate by RE Slade and GI Higson. pl54-170
10. 1920 Dec	Reprinted from the Philosophical Magazine Vol XI The Absorption of Light by the Goldberg Wedge by F.C. Toy and J.C. Ghosh.
11. 1921 Jan	Reprinted from the Photographic Journal The Action of Light on the Photographic Plate by GI Higson 10p
12. 1921 Feb	Reprinted from the Photographic Journal The Wedge Method of Photometry by GI Higson 4p.
13. 1921 April	Reprinted from the Photographic Journal A Monochromatic Illuminator of Special Design by FC Toy 6p.
14. 1921 March	Reprinted from the Photographic Journal The Action of Light on the Photographic Plate, Part II the under-exposure period by GI Higson. 9p.
15. 1921 May	Reprinted from the Photographic Journal The History of Persulphate Reduction by GI Higson 8p
16. missing	
17. nd.	Note on the Goldberg Wedge by F.C. Toy. 1p.
18. 1922 Jan	Reprinted from the Photographic Journal Sepia Toning with Colloidal Sulphur by S.O. Rawling 3p.
19. 1921 Dec.	Reprinted from the Photographic Journal The Sensitivity of Silver Halide Crystals which are Geometrically Identical by F.C. Toy 7p
20. 1921	Reprinted from the Transactions of the Chemical Society Vol 119, 1921. The Reaction between Persulphates Silver by Geoffrey Isherwood Higson p2048-2055

21. 1922 Feb Reprinted from Photographic Journal Potassium Persulphate as a Reducer by CI Higson, 12p 22. 1922 Aug Reprinted from Philosophical Magazine vol xliv On the Theory of the Characteristic Curve of Photographic Emulsion by F.C. Toy p352-371 23. 1922 July 31 Reprinted from the Journal of the Society of the Chemical Industry Vol XLI Electric Heating and Controlling Apparatus for a Small Thermostat by S.O. Rawling. 24. nd. Grain Structure v Light Quanta in the Theory of Development by W Clark 6p 25. 1923 Feb Reprinted from Photographic Journal The Factors which determine Gamma Infinity by GI Higson and FC Toy 7p 26. 1922 Reprinted from Transactions of the Chemical Society vol 121 The Isoelectric Condition of Gelatin by Sidney Owen Rawling and Walter Clark p2831-2843 27. 1923 April Reprinted from the Philosophical Magazine vol xlv On the Theory of the Characteristic Curve of Photographic Emulsion by F.C. Toy p716-726 28. 1923 Reprinted from the Transactions of the Chemical Society vol 23 Determination of the Isoelectric Point of Gelatin. A Criticism of Pattern and Kellems's Method by Thomas Slater Price p410-412 29. 1923 May Reprinted from the Photographic Journal The Reduction Centres of Silver Bromide Emulsion by Walter Clark. 8p 30. 1923 Nov Reprinted from the Transactions of the Faraday Society No 56 vol XIX part 2 The Mechanism of the Latent Image Formation by F.C. Toy 6p

- 31. 1923 Nov

 Reprinted from the Transactions of the Faraday Society No 56 vol XIX Part 2,
 The Physical Chemistry of the Vehicle and of the Emulsion by T. Slater Price
 5p
- 32. 1923 Nov

 Reprinted from the Transactions of the Faraday Society No 56, vol XIX Part 2, On the Sensitivity of a Silver Bromide Emulsion by Walter Clark 5p
- 33. 1924 Feb Reprinted from the Photographic Journal
 On the Sesitivity of the Silver Halide
 Grains of a Photographic Emulsion
 by Walter Clark
 7p
- 34. 1923 Nov 23 Reprinted from The British Journal of Photography
 Sodium Arsenite and the Plate by Walter Clark
 4p
- 35. 1923 Dec 14. Reprinted from The British Journal of Photography
 Theory of the Action of Hydrogen Peroxide and Ozone as Fogging Agents by
 Walter Clark
 3p

36-38. missing.

39. 1924 Nov

Reprinted from the Phil Mag vol xlviii

Investigations on the latent photographic

Image. - Part 1 the Relation between the
Light Frequency and Number of Developable

Centres by F.C. Toy and H.A. Edgerton
p947-961

40.	1924	Sept.	Reprinted from the Journal of Scientific Instruments vol 1 No 12 A New Selenium Cell Density Meter by F.C. Toy and S.O. Rawling p362-365. [2 copies]
41.	1925	Feb	Reprinted from Photographic Journal Standard Development by W Clark 14p
42.	1925	Feb	Reprinted from Photographic Journal Exposure Mechanism by S.O. Rawling 6p
43.	1925	Мау	Reprinted from the Journal of Physical Chemistry vol XXIX The Behaviour of Silver Iodide in The Photo-Voltaic Cell. A criticism by T. Slater Price p557-563
44.	1925	June	Reprinted from the Phil Mag vol xlvix The Use of Commercial Plates in Research on the latent Photographic Image by F.C. Toy pl104-1112
45.	1925		Reprinted from The British Journal of Photography LXXII The Action of Arsenites on the Photographic Plate by Walter Clark 3p
46.	1925	Feb	Reprinted from the Photographic Journal Note on the Function of Gelatine in Development by T. Salter Price 2p
47.	1925		Reprinted from the Photographic Journal vol LXV, pl64-177. Standardisation of Photographic Density
			Measurements by F.C. Toy 14p

48-49. missing

50. 1926 April Reprinted from the Journal of the Chemical Society
The Electrometric Titration of Halides by Walter Clark.
p749-775

51-53. missing

54. 1926 April Reprinted from The Photographic Journal vol LXVI
A Note on the Arrest of Development in Plate Testing by S.O. Rawling p187-189

55. 1926 May 28 Reprinted from The British Journal of Photography
The Action of Light on Silver Bromide Emulsions and the role of the sensitive nuclei by F.C. Toy p295-298

56. 1926 July

Reprinted from The Photographic Journal vol LXVI

Thiocarbamide Fog and a suggested explanation of Waterhouse Reversal by S.O. Rawling p343-351

57. 1926 Nov Reprinted from The Photographic Journal vol LXVI
The Sensitivity of Photographic Emulsions
Part 1 by SO Rawling and JW Glassett p495-504

58. 1927 Feb Reprinted from Phil Mag
vol III
The Photo-Electric Activity of the
Silver Halides and Silver
Sulphide by FC Toy,
HA Edgerton and JOC Vick
p482-495

59. 1927 Jan

Reprinted from The Photographic Journal vol LXVII The Sensitivity of Photographic Emulsions Part II by SO Rawling p42-48

60. missing

61. 1927 March 4

Reprinted from the British Journal of Photography Note on the Fogging Action of Persulphate by W Clark p121-122

62. 1927 Apr 22-29 Reprinted from The British

Journal of Photography.
Oxidising Agents in the Study
of Photographic Emulsions
by W Clark
p227-228 and 243-245.

63. missing

64. July

Reprinted from the Photographic Journal vol LXVII Thiocarbamide as an impurity in Thiocyarates by T Slater Price and JW Glassett p329-330

65-67. misssing

68. 1928 July

Reprinted from The Proceedings of the Seventh International Congress of Photography and published by W Heffer and Sons Ltd., Cambridge 1929 Researches on the Influence of Hydrogen Ion Concentration upon Photographic Sensitivity of Emulsions by SO Rawling p192-193 69. 1928 July

Reprinted from The Proceedings of the Seventh International Congress of Photography and published by W Heffer and Sons Ltd., Cambridge 1929 The Mechanism of the Latent Image Formation by F.C. Toy p14-34

70. 1929 Feb

Reprinted from the Photographic Journal vol LXIX The Sensitivity of Photographic Emulsions Part III by S.O. Rawling p83-89

71. missing

72. 1929 May 4

Reprinted from Nature.
The Primary Process in the Formation of the latent Photographic Image by FC Toy and GB Harrison 4p

73. 1930

Reprinted from the Proceedings of the Royal Society A, Vol 127 Photo-conductance Phenomena in the Silver Halides and the latent Photographic Image by FC Toy and GB Harrison p613-637

4/4 1	[Confidential] Rep	orts	of	the	Britis	sh P	hotographic	Research
	Association	Nos.	1-3,	5-8	, 8A	, 8B,	9-1	4, 15	

Abboerneron nob.	,,,
1 nd	Practical Methods of Testing Photographic Papers 5p illus
2 nd	The Iodine Absorption of Gelatin Solutions Studied by means of the Reaction between Potassium Persulphate and Potassium Iodide 8p illus
3 nd	Setting and Melting point apparatus for Gelatins 4p illus
4 missing	
5 nd	Electromagnetic Method of Determining Concentration of Hydrogen Ion 9p illus
6 nd	Viscosity Measurements 4p illus
7 nd	The Effect of Heating upon the Viscosity of Gelatin Solutions 10p illus
8 1922 Nov 10	Distribution of Nitrogen in Gelatins 12p
8A [1922]	The Titration of Gelatin Solutions with Hydrochloric Acid 3p
8B 1923 March	Diffusible Nitrogen of Photographic Gelatins 3p
9 1923 March	The Rate of Gelation of Photographic Gelatins A method of Comparison by means of Viscosity Measurements. 3p
10 1923 March	Iodides of Mercury in Photography. 8p
11 1923 [March?]	Some properties of Collodion Films. 10p
12 nd	Colloidal Silver and the Photographic Image. 39p
13 missing	
14 nd	The Influence of the Absorption of Ions on the Photochemical Sensitivity of Silver Bromide. 12p

nd Jelly Strength of Gelatin. 12p [originally numbered]

- 4/5. Correspondence re the discontinuance of the British Photographic Research Association Grant
- 7 letters all 1927 March/April
- 1 1937 March 10

 Letter, pencil draft, ink draft and typed
 copy, from Gower Street, London, W.R. Ferguson to My Lords
 and Gentlemen of the Advisory Council of the Department of
 Scientific and Industrial Research
 Putting forward arguments in favour of the
 continuation of the grant in aid. Signed
 by W.B. Ferguson and in Ferguson's hand A.W. Porter,
 Professor of Physics, University of London
- 2 1927 March 10 Letter, typed, from University of London,
 Gower Street. A.W. Porter [to] W.B. Ferguson, 48 Campayne
 Gardens, NW6.
 Enclosing documents for signature
- 3 1927 March 11 [Letter, typed copy from British Photographic Research Association, C.M. Bishop [to] Sir. Department of Scientific and Industrial Research, London, SW1. Putting the case for the retention of the BPRA grant.
- 4 1927 March 26 [Letter, typed copy, from Department of Scientific and Industrial Research, A.L. Hetherington [to] Secretary of British Photographic Research Association Advising of receipt of Mr. Bishop's letter and requiring further reports to be sent.
- 5 1927 March 27 [Letter typed from British Photographic Research Association, 30 Russel Square, London WCl, H.F. Parkinson [to] Sir.

 Forwarding copies of letter sent to and reply received from the Department of Scientific and Industrial Research. [items 3 and 4]
- 6 1927 April 2 [Letter, MSS, from University of London, University College, A.W. Porter[to] W [R] Ferguson Expressing hope of having some influence with the Department of Scientific and Industrial Research.
- 7 1927 April 5. [Letter, typed, from British Photographic Research Association, Russell Square, London, WCl. H. Parkinson [to] W.B. Ferguson, 48 Campayne Gardens, NW. Returning copy of letter to D.S.I.R.

5 The Hurter and Driffield Material

5/1. The Hurter and Driffield bequest manuscript indexes [compiled by W.B. Ferguson]

1881-1897 Index to Hurter's notebooks

1879-1915 Index to Driffield's notebooks

1890-1906 Index to correspondence

nd Index to Dr F Hurter's manuscripts other

than notehooks and correspondence

Arcticles by Hurter and Driffield published as off prints. Numbers 1-13 are bound together in blue holder. Duplicates and nos 14 and 15 are loose

1 1889 April 30 The Actinograph by V.C. Driffield

2 1890 April 30 Reprinted from the Journal of the Society of the Chemical Industry An Instrument for the Measurement of Diffuse Daylight and the Actinograph, by F. Hurter

[a 2nd copy]

3 1890 May 31 Reprinted from Journal of the Society of the Chemical Industry. Photochemical Investigations and a new method of Determination of the Sensitiveness of Photographic Plates, by F. Hurter and V.C. Driffield

[a 2nd copy]

4 1890 August 28 Illife and Son, London. Measuring the Density of Negatives by F. Hurter and V.C. Driffield

[3 more copies]

- S 1891 Jan 31

 Reprinted from the Journal of the Society of the Chemical Industry.

 The Sector and Grease Spot
 Photometers and their Results by F. Hurter and V.C. Driffield [a 2nd copy]
- 6 1891 Jan 19 Reprinted from Photography Feb 19 and 29.
 The Action of Light on the Sensitive Film by F. Hurter
 [a 2nd copy]
- 7 1891 Feb 28 Reprinted from Journal of the Society of the Chemical Industry.

 Relation between Photographic Negatives and their Positives by F. Hurter and V.C. Driffield [5 more copies]
- 8 1891 Feb 28 Reprinted from Journal of the Society of the Chemical Industry.

 The Sector and Grease Spot Photometers and their Results by F. Hurter and V.C. Driffield
- 9 1891 April 30 Reprinted from Journal of the Society of the Chemical Industry.
 The Sector and Grease Spot Photometers by F. Hurter

10	1891	[Reprinted from Photographic Arts Journal] Hurter and Driffield's Photochemical Investigations -unattributed
11	nd	Reprinted from the British Journal of Photography The Principles Involved in Enlarging, by V.C. Driffield
12	nd	Reprinted from the British Journal of Photography The Speed of Plates. Messrs Hurter and Driffield's Theory Practically Tested
13	1898	Reprinted from the Photographic Journal The Latent Image and its Development by F. Hurter and V.C. Driffield
14	1903 Jan	Reprinted from Photographic Journal Control of the Development Factor and a Note on Speed Determination by V.C. Driffield
15	1903 Nov	In The Photo Miniature A Magazine of Photographic Information edited by J.A. Tennant The Hurter and Driffield System being a brief account of their photochemical investigation by V.C. Driffield

5/3. Manuscript notes

1 nd Mss notes 3 pages [incomplete] entitled Density of Negatives, by F. Hurter, PhD

5/4. Printed articles written about Hurter and Driffield

- 1 1891 Apr 4 Reprinted from The Photographic Arts Journal Hurter and Driffield's Photochemical Investigations pl0 [3 copies] unattributed

 Mss note "Mr F.F. Renwick is of the opinion that this reprint from the P.A.J. of 1891, p.208, 222, 238 should not be reprinted in the H and D memorial volume"
- 2 1898 May 31 Reprinted from Journal of the Society of the Chemical Industry No.5 Vol.XVII.

 The life and work of Ferdinand Hurter contributed by members of the Liverpool section of the Society of the Chemical Industry
- 3 1918 May 14 The first Hurter and Driffield Memorial lecture delivered before the Royal Photographic Society and published London 1918

 The early work of Hurter and Driffield by W.B. Ferguson
- 4 1929 Dec Printed in Camera Nr.6
 Article on Dr Ferdinand Hurter by Professor Dr. Erich
 Stenger of Berlin

5/5. Copies of the Abney/Hurter and Driffield correspondence consisting of 29 typed copy letters from W de W Abney to Dr Hurter or Mr Driffield. All foolscap, all concerning the controversy over the accuracy of their respective photometers for measuring the density of negatives

photometer

1 [1889]? June 1 From Science and Art Department, South Kensington [London] [to] Gentlemen. Very pleased with actinometer From Science and Art Department, South 2 1889 Nov 18 Kensington [London] [to] Sir. Stating he has not overlooked the fact that light is not a linear function From Hotel St. Romain 5 and 6 Rue St Roch, 3 1891 March 29 Ancne Rue du Dauphin, Paris [to] Dr Hurter Dicussing Hurter's apparatus and whether it gives the true density of a negative 4 1891 April 9 From Science and Art Dept, South Kensington, [London] to Mr Driffield. Thanking him for enclosure of Hurter's paper From Science and Art Department, South 5 1891 June 8 Kensington London [to] Dr Hurter. Suggesting an experiment to test Hurter's photometer 6 1891 Dec 13 From Hotel Royal, Rome to Mr Driffield Affirming all he has claimed to be measuring is the total light coming through a negative in contact printing 7 1892 Jan 16 From Bohun lodge, East Barnet, Herts to Dr Hurter and Mr Driffield. Stating the whole difference between us lies in whether optical density can be measured by the total amount of light which penetrates a negative and continuing the dispute about the Hurter and Driffield

8 1892 Jan 19 No address given to Mr Driffield. Thanking for negatives which are to be measured and a report made 9 1892 Jan 25 From Willeslie House, 1 Wetherby Place [London] SW. [td Mr Driffield. Sending measurements made on negatives confirming view that H and D photometer gives diminishing density results when moved further away from negative 10 1892 Jan 29 No address given - to Dr Hurter. Expressing disappointment that Hurter is convinced Abney's system of measurement is wrong 11 1892 Feb 10 From Willeslie House, 1 Wetherby Place [London] SW to Mr Driffield. Hoping to send results of measurements made on negatives on Friday 12 1892 Feb 17 From Willeslie House, 1 Wetherby Place, [London] SW to Mr Driffield. Sending results of negative measurements which show that Abney's meter consistently gives smaller density reading than does H and D's meter 13 1892 Feb 28 From Science and Art Dept. South Kensington [London] [to] Sir. Thanking for excerpt from photography and expressing desire to see the instrument at work 14 1892 Feb 29 From Willeslie House, 1 Wetherby Place [London] SW to Dr. Driffield. Expressing astonishment that Hurter and Driffield wish to discontinue the investigations into opacity of film measurements convinced that their measurements are correct 15 1892 March 3 From Science and Art Department, South Kensington [London] [to Mr Driffield. Two letters on one sheet. One enclosing diagram of observations made of plates, one affirming Abney is continuing to test his photometer in every way



- 16a 1892 March 14 Science and Art Department, South
 Kensington [London] [to] Sir. Thanking for photographs
- 16b 1892 March 16 [From] Willeslie House, 1 Wetherby Place,
 [London] SW [to] Mr Driffield. Stating Professor Rucker
 is to test both Abney and H and D photometers
- 17 1892 March 20 Willeslie House, 1 Wetherby Place
 [London] SW [to] Mr Driffield. Enclosing sample of paper used for photometer
- 18 1892 March 30 Willeslie House, 1 Wetherby Place,
 [London] SW to Mr Driffield. Has made a copy of the
 Hurter and Driffield photometer and has discovered
 that changing the position of the negative alters the
 result obtained with it whereas the difference is
 immeasurable with his own photometer
- 19.1892 April 6 Science and Art Department, South
 Kensington [London] [to] Mr Driffield. Reiterating the
 fact that the position of the negative has a great
 deal to do with the difference in readings between
 H and D and Abney photometers
- 20 1892 April 9 From London [to] Mr Driffield re further experiments to test the relative merits of the two photometers
- 21 1892 April 11 Science and Art Department, South
 Kensington [London] [to] Mr Driffield. Suggesting
 experiment to be carried out by Driffield to test his
 photometer

22 1892 April 22 Science and Art Department, South Kensington [London] to Mr Driffield. Contention about the experiments to be carried out, materials and methods to be used Science and Art Department, South 23 1892 April 26 Kensington [London] [to] Sir. Expressing hurt at incourteous statements made in letters such as "wide of the truth", "pure assumption" etc. Willeslie House, 1 Wetherby Place [London] 24 1892 April 30 SW [to] Mr Driffield. Stating no wish to prove one right or wrong just wishing to establish the truth and including further results of experiments 25 1892 May 8 Willeslie House, 1 Wetherby Place [London] SW [to] Mr Driffield. Going to see Professor Rucker shortly for his comments on the respective photometers 26 [?] Aug 12 Willeslie House, 1 Wetherby Place [London] SW [to] Mr Driffield. His wife given birth and therefore he has not been in frame of mind for continuing their discussions 27 [?] Aug 12 Zermatt to Sir. Objecting to their correspondence being published 28 [?] Dec 5 In train to Dover to Dr Hurter and Mr Driffield. Denying that he has ever in any article said a word impugning in any way H and D's method of measuring densities 29 1898 Nov 3 Rathmore Lodge, Bolton Gardens South [London] SW [to] Mr Driffield. Thanks for sending reprint of paper published in the Photogrpahic

Society - on death of Dr Hurter

6. <u>Miscellaneous Booklets</u>, <u>Periodicals and Offprints in Ferguson's possession</u>

6/1. Offprints of periodicals

	1 1874	Sept	Reprint from the [London, Edinburgh, and Dublin] Philosophical Magazine [and Journal of Science, VOL.48] On the Opacity of the Developed Photographic Image by Capt. Abney. 5p
:	2 1890	Dec.1	Article from The Camera, VOL.V no.55. Density of Negatives by Capt. W. De W. Abney p.136-138
		Feb., Dec.	The Journal of the Camera Club, VOL.7 nos. 80,83,91 with articles by W de W Abney
ı	1904	Dec.	Reprint from The Proceedings of the Royal Society, VOL.74 The Theory of Photographic Process: on the Chemical Dynamics of Development by S.E. Sheppard and C.E.K. Mees. p.447-473
	1906		Reprint from The Transactions of the Chemical Society, VOL.89 The Theory of Alkaline Development, with notes on the affinities of certain reducing agents by Samuel Edward Sheppard. p.530-550
6	1911	Apr	Photographic scraps, VOL.6 no.260. p.217-224 with article The Ilford Wedge by Chapman Jones p.217-200
7	1912		Reprint from The Proceedings of the Royal Society A, VOL.86 Contributions to the Study of Flicker Paper III by T.C. Porter. p.495-513 [annotated]
8	1914	Dec	Journal of the Royal Society of Arts, VOL.63 no. 3239. p.85-100 with article Testing Pigments for Permanence of Colour by Sir W de W Abney p.85-94
9	1916		Reprint from Zeitschrift fur Wissenschaftliche Photographie, VOL.16 no.3 Sensito-metrische Apparate und deren Fehlerquellen by Arvid Odencrants. p.69-91
1	0 1916	i	As above, VOL.16 n.4 Untersuchungen uber Intensitats - und Intermittenz - schwachung by Arvid Odencrants p.111-200
1	1 1917	1	As above, VOL.16 nos.9/10 Was muss man von einer Theorie des latenten Bildes fordern? by Arvid Odencrants p.261-268

12 1919	As above, VOL.18 no.10 Intensitats - oder Intermittenzkalen fur sensitometrische Zwecke. Einiges uber die Anwendungen derselben by Arvid Odencrants. p.209-220
13 1919	As above, VOL.18 no.10 Die Intensitats - schwachung fur Entwicklungspapiere by Arvid Odencrants. p.220-226
14 1918 Apr	Reprinted from Nordisk tidskrift for fotografi En intensitetssensitometer (Forberedande meddlande) by Arvid Odencrants. 4p
15 1918 May	As above. Huru inverker Ijusstyrkan vid kopieringen av gasljuspapper m.m.? by Arvid Odencrants. 2 pp
16 1920 Jun	Reprint from the Journal of the Society of Chemical Industry, VOL.39 no.12 Hurter Memorial Lecture Photographic Images - visible and invisible by F.F. Renwick. 8p
17 1920 Sep	Journal of the Royal Society of Arts, VOL.68 no.3539 p.695-706 with article A Photographic Research Laboratory by C.E. Kenneth Mees. p.695-705
18 1921 Nov	Scientific paper of the Dept. of Commerce Bureau of Standards, no.422. Studies in Color Sensitive Photographic Plates and Methods of Sensitizing by Bathing by Francis M. Walters Jr. and Raymond Davis. 12 pl. p.353-375
19 1922 Oct	As above, no.454 Action of Charred Paper on the Photographic Plate and a Method of Deciphering Charred Records by Raymond Davis. 2 pl. p.445-450
20 1922 Aug	Reprint form the Photographic Journal [VOL.46] Gelatin by T. Slater Price. 13 p. Lecture delivered 1922 April 25

- 21 1923 Sept. As above, [VOL.47] The Relation of the Selective Absorption of Printing Colours to the Errors occuring in three-colour Photography by A.J. Bull. 20 p. lecture delivered 1923 May 22
- 22 1923 Mar-Apr. Reprint from Archives des Sciences Physiques et Naturelles, VOLS.4 and 5 Les Problemes Fondamenteux de la Plaque Photographique by Emile Muhlestein. 60p.
- 23 1924 Sept.5
 Journal of the Royal Society of Arts,
 VOL.72 nos.3746, 3747, 3748 with
 articles on Certain Fundamental Problems in
 Photography by T. Slater Price. p.725-736, 739-750,
 753-763
- 24 1925 May 15

 Reprint from the Journal of the Society
 of Chemical Industry. Publication no. 22 of British
 Launderers' Research Assoc. The Design, Construction,
 and Use of a Constant Humidity Room by R.G. Parker
 and D.N. Jackman. 23p
- 25 1925 Reprint from the reports of the progress of Applied Chemistry, VOL.9 1924, issued by the Society of Chemical Industry Photographic Materials and Processes by Walter Clark. 43p
- 26 1925 Apr. Reprint from the Photographic Journal VOL.65 (new series VOL.49). An Evaluation of the Light Scattered by Photographic Densities by A.J. Bull and H. Mills Cartwright. 4p
- 27 1925 Oct.

 Reprint from the British Journal of Radiology,
 VOL.21. The Investigation of the Movement of the Heart by
 the Use of the Slit Diaphragm and the Moving Film by
 Robert Knox. 17p. and 11pl. Papers read at IX International
 Congress of Radiology 1925 June and July 3
- 28 1925-1926 Reprint from the Transactions of the Optical Society, VOL.27 no.2. A Trichromatic Colorimeter Suitable for Standardisation Work by J. Guild. p.106-129

29	1926	Feb.	Reprint from the Photographic Journal, VOL.66. The Basis of the Image in Photo-Lithography by E.L. Turner and C.D. Hallam. 2p
30	1929		Reprint from the Proceedings of the Seventh International Congress of Photography, July 1928. Modern Photo-engraving Screens by E.L. Turner. 3p
31	1929		As above. The Progress of Photogravure Etching by H. Mills Cartwright. 14p
32	1929		As above. A Method of Colour Correction by H. Mills Cartwright. 3p
33	1929		As above. Tone Rendering by Half-Tone Processes by A.J. Bull. 10p.
34	1929		As above. Report on Turbidity, with Special Reference to its Application in the Photographic Industry by F.C. Toy, E.R. Davies, B.H. Crawford and B. Farrow. 35p
35	1932	Mar.ll	British Journal of Photography Paris Notes by L.P. Clerc refering to an automatic printer. p.149-150
36	1932	Apr 8	British Journal of Photography Practical Sensitometry by H. Baines. p.209-212
37	1932	Apr.	Issue of proceedings of the British Kinematograph Society. No.17: Inherent Difficulties in the Measurement of Photographic Speed by E.R. Davies. 16p. Letter from
38	1934		Reprint from the Journal of the Textile Institute, Vol.25. A Photometer of Special Application to Routine Textile Measurements by R.E. Hampson and H.W. Richards.
			p.106-121 and lpl. ESS test plate tints for launderers
39	1934 .	Jun.15	The British Journal of Photography, Vol.81 no.3867 with article - A New Reflection - Density Meter by W.B. Ferguson. p.351-352
40	1935 .	June	Reprint from the Journal of the Institute of Fuel. Gas Purification by H. Hollings and W.K. Hutchinson. 12pp

6./2.Booklets and pamphlets

1 1854 Aug.11 An Act to afford greater facilities for the Establishment of Institutions for the Promotions of Literature and Science and the Fine Arts and to provide for their better regulation. Victoriae Reginae Cap CXII. p.1178-1187 2 1914 Jun 19 Supplement to the British Journal of Photography. Photography Past and Present [unattributed]. pi-xxiv 3 1915 Bidrag Till Frugran om Fotogritisk fotometri. Akademisk Afhandling by Arvid Odencrants. p.155 illus. Published Uppsala 1915. Inscribed: To the Royal Photographic Society. With the author's compliments 4 1928 Aug Lantern Slides by B.T.J. Glover, p.80. Published London 1928. Inscribed: to Mr. W.B. Ferguson whose continued friendship I value so highly 25/9/28. B.T.J. Glover Chemists' note book published by James A. Jobling and Co. 5 nd Ltd., Sunderland, contains tables and data on pyrex glass, but otherwise unused 6 nd The Cadett Spectrum Plate for rendering correctly all color luminosities. The only plate on the market at present made by Cadett and Neal, Ashtead Surrey