

Catalogue of the papers and correspondence of ROBERT WILLIAM DITCHBURN FRS (1903 - 1987)

MS 4621

The Collection covers the year's 1919-ca 1988.

The physical extent of the collection is 4 boxes.

The collection, although small in size, offers a respectable amount of biographical material, material relating to Ditchburn's principal publications and diamond research at Reading and some scientific correspondence.

Section A, Biographical, consists of Ditchburn's own material relating to his career, including curricula vitae and a typescript copy of his 'Reminiscences' for The Making of Physicists, and letters containing the recollections of colleagues, students and friends sent to G W Series while he was compiling the Royal Society memoir. The final draft of the memoir is at NCUACS 6/5/88/A.1.

Section B, Publications and Lectures, comprises a chronological sequence of notes, drafts, correspondence and other material relating to Ditchburn's publications and lectures. Unfortunately his university lectures and seminars are represented only by NCUACS 6/5/88/B.4, a notebook for lectures given by Ditchburn probably while professor at Trinity College Dublin.

There is a considerable body of material relating to the English language editions of Light (NCUACS 6/5/88/B.8-NCUACS 6/5/88/B.30).

At the end of the sequence is a small subsection (NCUACS 6/5/88/B.57-NCUACS 6/5/88/B.59) devoted to Ditchburn's work for the Pugwash movement, principally papers and lecture notes on armaments and energy.

Section C, Diamond Consultancy, is a chronologically presented sequence of, mainly, correspondence between Ditchburn and colleagues in South Africa regarding progress in research at Reading.

Section D, Scientific Correspondence, consists of letters arranged alphabetically by correspondent, chiefly about light and vision. It includes a 1935 letter from Sir J Chadwick (NCUACS 6/5/88/D.8) thanking Ditchburn for recommending him for the Nobel Prize in Physics which he received that year. Also of interest is a letter Ditchburn sent in 1975 to the Burmah Oil Company suggesting that their investment in research into achieving nuclear fusion through laser systems was unlikely to have any commercially viable result (NCUACS 6/5/88/D.6).

At NCUACS 6/5/88/D.12 is 1970 correspondence with D Fishlock, science correspondent of the Financial Times, who enquired about a second world war government campaign encouraging the consumption of carrots as an aid to night vision.

Section E, Non-print material, is largely group photographs taken at various conferences. There is also a photograph of students at the Cavendish Laboratory 1927 (NCUACS 6/5/88/E.1). NCUACS 6/5/88/E.11 is a tape-recording of a lecture by Ditchburn on Sir J J Thomson.

Compiled by Peter Harper and Timothy E. Powell, National Cataloguing Unit for the Archives of Contemporary Scientists.

ACKNOWLEDGEMENTS We are very grateful to Mrs Doreen Ditchburn for making available her husband's papers, and to Professor G W Series for a draft of his Royal Society memoir and the material assembled for it.

Introduction

OUTLINE OF THE CAREER OF R W DITCHBURN

Robert William Ditchburn was born in Waterloo, Lancashire, in 1903. He attended Bootle Grammar School (where his father, who graduated in Physics from the University of London, was Headmaster) from 1911. At the age of 16 Ditchburn won a Bibby Scholarship to Liverpool University where he was exempted from the first year course because he held a Higher School Certificate in relevant subjects.

Ditchburn passed the Ordinary Degree in Mathematics and Physics in 1920 and gained his BSc Honours in Physics in 1922. He also was successful in the Cambridge University Scholarship Examination and was admitted to Trinity College the same year. As he already had a degree in Physics Ditchburn was excused Part I of the Tripos. He graduated in 1924.

In 1923 Ditchburn had won a four year Senior Scholarship and this, together with the Isaac Newton Scholarship held 1925-28 and various academic prizes, enabled him to study for his PhD at the Cavendish Laboratory under Sir J J Thomson, its former Head.

Apparently with no great hope of success Ditchburn applied for a fellowship at Trinity College Dublin in 1928. He was in fact elected and a year later was appointed Erasmus Smith's Professor of Natural and Experimental Philosophy at Dublin University. Also in 1929 Ditchburn married Doreen Barrett. They remained in Dublin until 1946, except for three years from 1942 during which Ditchburn

served as Principal Experimental Officer at the Admiralty Research Laboratory, Teddington.

Ditchburn returned to England in 1946 to take up the Chair of Physics at Reading University. As Head of the Department he oversaw a considerable growth in the study of physics at the University; from 1946 to his retirement in 1968 the staff of the Department increased from three to over thirty. This expansion, which Ditchburn himself thought his single most important contribution to science, culminated in the opening in 1960 of the J J Thomson Physical Laboratory, built on the new Whiteknights site.

An important field of study of the Physics Department, initiated at the suggestion of Sir Francis Simon in 1953, was diamond research, particularly the investigation of the effects of radiation on diamonds. In the years thereafter the University of Reading was to assume a prominent position in this field.

In 1956 Ditchburn was instrumental in forming an international Diamond Research Committee, acting as chairman from its inception until 1982. He served as a consultant on diamonds to De Beers and helped to establish a sound administrative base for the company's research into synthesising diamonds, a project which was eventually successful.

Ditchburn retired in 1968 though he remained active in the fields of diamond research and optics. He also found time to research the illness of Sir Isaac Newton, disputing the suggestion that he died of mercury poisoning.

At about this time Ditchburn became strongly committed to the Pugwash movement and attended the 1967 conference in Sweden. He produced a number of papers for Pugwash meetings on the subject of armaments and the energy crisis.

Ditchburn's Royal Society memorialist identifies his principal research areas as the photo-ionization of gases and vapours, other absorption processes relevant to the upper atmosphere, the optical properties of solids, (especially diamonds) and the effect of eye movements on visual perception. His most important publication, *Light*, was first published in 1952 and, with revised editions 1963 and 1976, became a standard textbook dealing with all aspects of the subject.

His interest in eye movements may have been inspired by his wartime research at Teddington. In his later years Ditchburn concentrated on this topic, publishing his second major work, *Eye Movements and Visual Perception*, in 1973, five years after retirement.

Ditchburn's scientific achievements were recognised with numerous honours and awards. He was elected to the Fellowship of the Royal Irish Academy 1930,

...serving on its council twice, 1933-1939 and 1942-1943. He was made a Fellow of both the Physical Society (1943) and the Institute of Physics (1949). In 1952-1955 he was on the council of the Physical Society and was vice-president 1958-1960, delivering the Society's Thomas Young Oration in 1959. Ditchburn then served a further two years as vice-president of the newly-merged Physical Society and Institute of Physics.

He was elected a Fellow of the Royal Society 1962 and served on several of its committees. He was also on the British National Committees for Physics, Astronomy and Radio-Science and the National Subcommittee for Optics 1948-1966 (chairman from 1961).

In addition to these and other positions and honours Ditchburn was a Fellow of the Optical Society of America and in 1983 was awarded the prestigious C E X Mees Medal for his contribution to optics research.

MS 4621 A1 Biographical and Autobiographical
n.d
'Final' draft of G W Series's Royal Society memoir of Ditchburn.
39pp typescript with a few ms additions and corrections.

**MS 4621 A1-
A43** SECTION A BIOGRAPHICAL

NCUACS 6/5/88/A.1 - NCUACS 6/5/88/A.8 Biographical and
Autobiographical
NCUACS 6/5/88/A.9 - NCUACS 6/5/88/A.27 Career, Honours
and Awards
NCUACS 6/5/88/A.28 - NCUACS 6/5/88/A.43 Material re Royal
Society memoir of Ditchburn

MS 4621 A2 Biographical and Autobiographical
1987-1988
The Times obituary of Ditchburn, 15 April 1987.
Obituary in University of Reading Bulletin, May 1987.
Obituary for Ophthalmic and Physiological Optics.
5pp Typescript with ms note '2nd half of 1987 or early 88'.

- MS 4621 A3** Biographical and Autobiographical
1960-c1969
Curriculum vitae with notes on papers published.
4pp Typescript, 14 January 1960.
Curriculum vitae, 1p typescript, 1969 or later.
- MS 4621 A4** Biographical and Autobiographical
1966-81 and nd
Requests for biographical information with information provided
by Ditchburn.
- MS 4621 A5** 'Reminiscences', The Making of Physicists, Adam Hilger
c1987
'Reminiscences by R.W.Ditchburn', 9pp typescript.
- MS 4621 A5-
A8** 'Reminiscences', The Making of Physicists, Adam Hilger
1987
- MS 4621 A6** 'Reminiscences', The Making of Physicists, Adam Hilger
July - November 1985
Correspondence, chiefly with the History of Physics Group of the
Institute of Physics who commissioned the book,
- MS 4621 A7** 'Reminiscences', The Making of Physicists, Adam Hilger
September - November 1986
Correspondence with the History of Physics Group re
recollections of the Kapitza Club,

- MS 4621 A8** 'Reminiscences', The Making of Physicists, Adam Hilger
c1987
Publicity material re The Making of Physicists, with covering
letter.
- MS 4621 A9** Career, Honours and Awards
1919-22
University of Liverpool Award of Bibby scholarship, testimonials
and degree certificates.
- MS 4621 A10** Career, Honours and Awards
1924-25
Trinity College Cambridge Menu for Sixcentenary of
Michaelhouse Commemoration Dinner, Michaelmas 1924;
correspondence with Sir J J and Lady Thomson.
- MS 4621 A11** Career, Honours and Awards
1926-27
Trinity College Cambridge Quarterly bill from Trinity College;
invitation from Sir J J and Lady Thomson to meet P Painlevé,
the French mathematician and politician; testimonials (probably
for Ditchburn's application to Trinity College Dublin) from Sir J J
Thomson (2), R Vere Laurence and R H Fowler.
- MS 4621 A12** Career, Honours and Awards
21 February 1928
Letter from A S Eddington re a vacancy in Australia for a Chief
Assistant at the Commonwealth Solar Observatory, Canberra

- MS 4621 A13** Career, Honours and Awards
1928
Trinity College Dublin Newspaper cuttings recording Ditchburn's election as Fellow; letters of congratulation from Lord Rayleigh and L R Wilberforce; letter from J L Synge offering to nominate Ditchburn for the Fellowship of the Royal Irish Academy.
- MS 4621 A14** Career, Honours and Awards
23 April 1929
Letter from E Rutherford with advice on 'organising the Course' at Trinity College
- MS 4621 A15** Career, Honours and Awards
1936
Material re application for Chair of Physics, Birmingham University, 1936.
Includes letters from J Chadwick, Rutherford and Thomson promising support.
- MS 4621 A16** Career, Honours and Awards
1945
Letter from Lord Rayleigh agreeing to give Ditchburn 'a reference for the Aberdeen post', 31 January 1945.
Letter from C P Snow (Tutor, Christ's College Cambridge) re the possibility of Ditchburn returning to Cambridge, 15 June 1945.
- MS 4621 A17** Career, Honours and Awards
1946
Material re appointment to Chair of Physics, Reading University
Includes typescript copy of Ditchburn's curriculum vitae and letter of congratulation from J A Crowther, whom he succeeded.

- MS 4621 A18** Career, Honours and Awards
16 June 1953
Menu for Trinity College Cambridge Annual Gathering Dinner,
- MS 4621 A19** Career, Honours and Awards
May 1955
Correspondence re Ditchburn's resignation as a Home Office
Regional Scientific Adviser for Civil Defence
- MS 4621 A20** Career, Honours and Awards
n.d
Material re the opening of the J J Thomson Physical Laboratory
1960, and its 25th Anniversary 1985.
- MS 4621 A21** Election to Fellowship of the Royal Society.
c1962
Telegram informing Ditchburn of his election and letter from H W
Florey, PRS, inviting him to lunch at the Society, 15 March 1962.
Mrs Ditchburn's ms list of those from whom congratulatory
letters and telegrams were received.
- MS 4621
A21-A24** Election to Fellowship of the Royal Society.
- MS 4621
A22-A24** Letters and telegrams of congratulation.

3 folders

- MS 4621 A25** Letters and telegrams of congratulation.
c1964
Correspondence with H D Kramer re Ditchburn's acceptance of a Senior Foreign Scientist Fellowship offered by the US National Science Foundation, 1964.
- MS 4621 A26** Letters and telegrams of congratulation.
July 1968
Telegrams and letter sent to Ditchburn upon his retirement
- MS 4621 A27** Letters and telegrams of congratulation.
1981
Optical Society of America.
Letter informing Ditchburn of his election to Fellow Emeritus, 8 December 1981.
Photocopy from Physics Today, November 1983, re award of the Society's C E K Mees Medal to Ditchburn.
- MS 4621 A28** Material re Royal Society memoir of Ditchburn
n.d
Correspondence from Mrs Ditchburn to Series.
Copy of letter sent by Series to colleagues of Ditchburn requesting recollections.
- MS 4621 A29** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Admiralty Research Establishment, Teddington, re Ditchburn's wartime research on optics.

- MS 4621
A29-A43** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
- MS 4621 A30** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Allibone, T E.
Blakemore, C, re significance of Ditchburn's work on physiology of optics.
- MS 4621 A31** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d and 1987
British Pugwash Group, re Ditchburn's contribution to Pugwash. Includes copy of obituary from Pugwash Newsletter, 1987.
Clark, C D, re Reading University.
- MS 4621 A32** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Dyer, H B, re Ditchburn's (and Reading University's) contribution to the diamond industry. Includes 4pp typescript essay with tributes from Dyer, F C Frank and D Tabor and 2pp typescript list of postgraduate students from Reading who studied diamonds for their Ph.Ds.
- MS 4621 A33** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d

Evans, T, re Reading University and De Beers consultancy.
Fellgett, P B, re Reading University.
Frank, F C, re Diamond Conferences and Pugwash.

- MS 4621 A34** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Gregg, A H, re Trinity College Dublin. Includes 3pp typescript recollections.
- MS 4621 A35** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d and 1987
Heavens, O S. Includes an obituary written for Physics Bulletin, July 1987.
Hedde, D W O, re Reading University.
Holt, J C. Gives permission to Series to use extracts from his The University of Reading: the first fifty years (1976), with formal letter from Reading University to the same effect.
- MS 4621 A36** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Hopkins, H H. Letter re Ditchburn's role in Optica Acta and correspondence with Mrs Ditchburn and Royal Society re unpublished paper by Ditchburn on 'Nuclear Winter'.
- MS 4621 A37** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d

Institute of Physics re Ditchburn's role in both the Institute and the Physical Society. Includes 2pp photocopy of the citation for the award of the 1959 Thomas Young Oration.

- MS 4621 A38** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Kelly, A, re Reading University.
Lang, A R, re Diamond Research Conferences.
Marr, G V, re Reading University.
- MS 4621 A39** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Mills, I M. Includes address delivered at Ditchburn's funeral.
- MS 4621 A40** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Oxford University Press. Permission to quote from Ditchburn's two contributions to The Oxford Companion to the Mind.
Pitt, H.
- MS 4621 A41** Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.
n.d
Royal Irish Academy. Material re Ditchburn's membership of the Academy including photocopies of his certificate of candidature and list of his papers published in the Academy's Proceedings.

MS 4621 A42 Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.

n.d

Seaton, M J. Includes note on Ditchburn's work on photo-ionization.

Smith, S D. Includes note on research at Reading.

MS 4621 A43 Correspondence with friends and colleagues of Ditchburn, and with institutions with which he was associated, arising from Series's request.

n.d

Steele, J P, re Trinity College Dublin.

Walton, E J S.

Wright, W D.

Wynne, C G.

MS 4621 B1 Bibliographies

n.d

Typescript lists of publications.

**MS 4621 B1-
B59** SECTION B PUBLICATIONS AND LECTURES

NCUACS 6/5/88/B.1, NCUACS 6/5/88/B.2 Bibliographies

NCUACS 6/5/88/B.3 - NCUACS 6/5/88/B.56 Publications and Lectures

NCUACS 6/5/88/B.57 - NCUACS 6/5/88/B.59 Pugwash Movement

- MS 4621 B2** Bibliographies
n.d
Typescript lists of papers on 'Eye Movements and Vision with Stabilised Images' and 'vacuum spectroscopy' published by members of the Reading University Physics Department, including Ditchburn.
- MS 4621 B3** Publications and Lectures
15 November 1932
Letter from Sir J J Thomson re a series of draft papers Ditchburn had sent him. Thomson advised him 'to send these papers as they stand'.
- MS 4621 B4** Publications and Lectures
1935-1947
Loose leaf notebook with ms lecture notes, probably for Ditchburn's Trinity College Dublin courses.
- MS 4621 B5** Publications and Lectures
n.d
Notebook with Ditchburn's ms notes on various subjects including 'The place of Technique in Science and Art' which may have been the basis for his published lecture of 1939 'The technician in art, science and industry'.
- MS 4621 B6** Publications and Lectures
1944
Admiralty Research Laboratory, 'Interconversion tables for photometric units', 27 October 1944.
- 2pp typescript + 3pp tables

MS 4621 B7 Publications and Lectures
1945
Admiralty Research Laboratory, 'The uses of red and orange
light in the Services', 6 June 1945.

35pp typescript + 1p index, 2pp references, 1p table, 9pp figs.

MS 4621 B8 First edition
1945-1946
Outline plan, 1p typescript; contract with Blackie, July 1945;
letter from publishers, 20 December 1946.

**MS 4621 B8-
B14** First edition

MS 4621 B9 First edition
n.d
Outline plan of Light, 15pp typescript with ms annotations.
Found with the contract.
Ms notes on previous books by other authors on light.

MS 4621 B10 First edition
n.d
Ms notes beginning 'Consider a sphere of radius a containing N
molecules with an assigned molecule at the centre O '. 4pp. Not
in Ditchburn's hand but found with material re Light (1st ed.).

MS 4621 B11 First edition
1953-1954
Booklet advertising Light; reviews of Light, 1953; letter from
Ditchburn re corrections and alterations, 30 September 1954.

- MS 4621
B12-B14** First edition
1958-64
Correspondence with publishers and readers arising from
publication of first edition, Arranged alphabetically.
- 3 folders
- MS 4621 B15** Second edition
1963-65 and nd
List of journals to receive review copies of Light.
Reviews of second edition of Light
- MS 4621
B15-B23** Second edition
- MS 4621 B16** Correspondence re second edition arranged alphabetically.
1963-70
Blackie and Son Ltd.
- MS 4621
B16-B23** Correspondence re second edition arranged alphabetically.
- MS 4621 B17** Correspondence re second edition arranged alphabetically.
1957-1964
Braddick, H J J, re revision of Light in view of Bellevue
Conference. 1957
Emeléus, K G, re ambiguities in Light 1964

- MS 4621 B18** Correspondence re second edition arranged alphabetically.
1985-1966
Eno, R 1965
Free, J, re spectra of energy 1965
Hargreaves, C M 1966
- MS 4621 B19** Correspondence re second edition arranged alphabetically.
1960-1963
Heavens, O S 1963
Hopkins, H H 1962
Institute of Physics and Physical Society 1960
- MS 4621 B20** Correspondence re second edition arranged alphabetically.
1966-1967
Long, J F, re reference to single photon interference. 1967
Mykura, H 1966
- MS 4621 B21** Correspondence re second edition arranged alphabetically.
1965
Robinson, E, re experiments on diffraction of light through cloth.
- MS 4621 B22** Correspondence re second edition arranged alphabetically.
1960-1965
Smith, R A 1960
Speer, R J, re EUV grating study. 1965
Taylor, A M, re Taylor's review of Light in Contemporary
Physics. 1963

MS 4621 B23 Correspondence re second edition arranged alphabetically.
1960-1963
Thames and Hudson Ltd 1963
Walsh, J W T 1960
Wapniarsky, W J 1963

MS 4621 B24 Third edition

Plates for Light.

**MS 4621
B24-B30** Third edition

MS 4621 B25 Third edition

Prefaces for third edition

4 pp typescript

**MS 4621
B26, B27** Correspondence re third edition
1971-75
Academic Press Inc

2 folders

**MS 4621
B26-B30** Correspondence re third edition

MS 4621 B28 Correspondence re third edition
1971
Blackie and Son Ltd

- MS 4621 B29** Correspondence re third edition
1973-81
Heavens, O S
Heavens contributed a number of short sections to the third edition. The correspondence chiefly concerns the subjects that should be covered and the payment of royalties.
- MS 4621 B30** Correspondence re third edition
1977-80
Miscellaneous correspondence.
- MS 4621 B31** Correspondence re third edition
1954
Letter from J L Synge on a note, 'Representation of an unstable particle', sent him by Ditchburn. Synge claims to be 'quite incompetent to judge' but suggests Ditchburn 'go ahead and publish it and see what happens!' 15 February 1954.
With copy of the note dated 1 February 1954,
- 4 pp typescript
- MS 4621 B32** Correspondence re third edition
1960
Brief correspondence from P Rosbaud, July 1960, enclosing letter from Sir G P Thomson declining editorship of book. Both Rosbaud and Thomson express the hope that Ditchburn would be willing to undertake this task.
- MS 4621 B33** Correspondence re third edition
June-August 1965
Correspondence with the Television Society re invitation to give the 1966 Fleming Memorial Lecture
Ditchburn declined the invitation because of a visit abroad.

- MS 4621 B34** Correspondence re third edition
1966-1969
'Eye Movements', Encyclopaedia of Linguistics, Information and
Control, 1969.
Letter from editor thanking Ditchburn for his article, 10 June
1966.
- MS 4621 B35** 'Joseph John Thomson, Nobel Prize in 1906'
April - December 1968
Correspondence with Fratelli Fabbri Editori; contract for article;
note accompanying payment of fee.
- MS 4621
B35-B39** 'Joseph John Thomson, Nobel Prize in 1906'
1968
- MS 4621 B36** 'Joseph John Thomson, Nobel Prize in 1906'
n.d
'Joseph John Thomson, Nobel Prize for Physics 1906'. Two
slightly different 12pp typescript copies of article.
- MS 4621 B37** Memorabilia of the 1926 Cavendish Laboratory celebration.
18 December 1926
Menu for Cavendish celebration
- MS 4621
B37-B39** Memorabilia of the 1926 Cavendish Laboratory celebration.

- MS 4621 B38** Memorabilia of the 1926 Cavendish Laboratory celebration.
18 December 1926
'Cavendish Laboratory Supplement', Nature,
- MS 4621 B39** Memorabilia of the 1926 Cavendish Laboratory celebration.
n.d
Reproductions of signatures of past and present workers in the
Cavendish Laboratory, bound in hard covers and labelled 'J J T
1856-1926'.
Presented to Thomson in recognition of his 'contributions to
theoretical and experimental physics'.
- MS 4621 B40** Memorabilia of the 1926 Cavendish Laboratory celebration.
n.d and 1973
Letter from Royal Netherlands Academy of Arts and Sciences, 9
May 1973, re publication of papers read at symposium on Light
and Sight.
Two 'Comments' on points raised at symposium,

2 pp typescript
- MS 4621 B41** Memorabilia of the 1926 Cavendish Laboratory celebration.
1973-1975
Eye Movement and Visual Perception, Clarendon Press, 1973.
Reviews 1973-75, with letter from L A Riggs re his review for
Contemporary Psychology, 23 July 1974.
- MS 4621 B42** Memorabilia of the 1926 Cavendish Laboratory celebration.
1977
'Reminiscences of the Cavendish Laboratory 1922-28', Physics
Bulletin, 1977.

5 pp typescript

- MS 4621 B43** Memorabilia of the 1926 Cavendish Laboratory celebration.
n.d and 1978
'Thomas Smith, FRS', Dictionary of National Biography
Supplement 1961-1970.
Request from editor for a notice of Smith's life, February 1978;
'final copy' of Ditchburn's draft, 2pp typescript + 1p typescript
notes for editor; letter to Ditchburn from J Preston with 3pp ms
notes on Smith; photocopy of 'appreciation' of Smith by K J
Habell.
- MS 4621 B44** Memorabilia of the 1926 Cavendish Laboratory celebration.
April, August 1978
Correspondence with P B Fellgett, re two articles by Ditchburn
and A E Drysdale published in Proc. Roy. Soc, 1977 and 1978.
- MS 4621 B45** Memorabilia of the 1926 Cavendish Laboratory celebration.
1979
'The relation between retinal-image movement and rotation of
the eye', Optica Acta 26 (1979).
Abstract only.
- MS 4621 B46** Memorabilia of the 1926 Cavendish Laboratory celebration.
1980
'The function of small saccades', Vision Research 20 (1980).

4 pp typescript
- MS 4621 B47** Memorabilia of the 1926 Cavendish Laboratory celebration.
1980
Ditchburn's ms notes on 'Parallel Visual Pathways: a review', by
P Lennie, Vision Research 20 (1980).

4 pp

- MS 4621 B48** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
1979
Correspondence with J M A Lenihan re the use of hair samples to obtain evidence of mercury poisoning, 1979.
Includes copies of two articles by Lenihan, 'Hair and History' and 'Mercury and Man'.
- MS 4621 B48-B53** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
- MS 4621 B49** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
n.d
Ms notes on Newton's health.
- MS 4621 B50** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
n.d
Ms notes on clinical depression.
- MS 4621 B51** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
n.d
Ms notes and background information on mercury poisoning.

- MS 4621 B52** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
n.d
Miscellaneous correspondence re Ditchburn's article, including letter from M Wolbarsht, co-author of article maintaining the mercury poisoning theory.
- MS 4621 B53** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
n.d
Photocopies and cuttings re the debate on Newton's death.
- MS 4621 B54** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
1984
Copy of letter from W M Dalton to editor of Encyclopaedia Britannica, 20 October 1984, re errors in entries on 'electromagnetic radiation' and 'light', the latter being a contribution by Ditchburn.
- MS 4621 B55** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
1985
Letter to B W Petley in which Ditchburn mentions his interest in optical experiments on relativity in connection with a book he is writing, 7 May 1985.
- MS 4621 B56** 'Newton's Illness of 1692/3', Notes and Records of the Royal Society 35 (1980).
1987
'Stabilization of Retinal Images', The Oxford Companion to the Mind, OUP, 1987.
Correspondence re illustrations, 14 January 1987.

- MS 4621 B57** Pugwash Movement
1979
Letter appealing for funds sent out by Ditchburn as 'the
"youngster" in the UK Pugwash Executive'
- MS 4621 B58** Pugwash Movement
n.d and 1977-1980
Typescript drafts and notes.
'Factors which Determine the Level of Armaments', Pugwash
Conference, Munich, 1977, 5pp + 1p abstract.
'Assessment of Dangers in New Weapons', Pugwash
Symposium, London, 10-12 December 1980, 4pp (photocopy),
last page missing.
Untitled draft on nuclear weapons, nd, 2pp.
Notes on nuclear energy, nd, 1p.
- MS 4621 B59** Pugwash Movement
n.d
Ms lecture notes.
'Nuclear Energy and Governmental Problems', nd, 7pp + 1p list
of slides.
'Energy Policy', nd, 2pp.
'Alternative Scientific Programmes', nd, 3pp.
- MS 4621 C1** DIAMOND CONSULTANCY
1954
Coloration and decoloration of diamonds by irradiation;
increasing diamond fluorescence ('sparkle') by surface chemical
treatment.
Includes 'Report on diamond polishing' by H B Dyer,

4 pp typescript

**MS 4621 C1-
C22** SECTION C DIAMOND CONSULTANCY

MS 4621 C2 DIAMOND CONSULTANCY
1955
Coloration and decoloration of diamonds; synthesising diamonds.
Includes letters re GEC's and ASEA Sweden's attempts to produce artificial diamonds, March.

MS 4621 C3 DIAMOND CONSULTANCY
1956
Patenting of new decoloration process for blue diamonds.

MS 4621 C4 DIAMOND CONSULTANCY
1957 Jan-May
Coloration and decoloration of diamonds; 1957 Diamond Conference.
Includes notes on discussions between P J Oppenheimer, W A Chapple and Ditchburn re 'Reading Scheme', 3pp typescript.
With report by Ditchburn on diamond research at Reading, 5pp typescript.

MS 4621 C5 DIAMOND CONSULTANCY
1957 June-Sept
Patent for decoloration of blue diamonds; 1957 Diamond Conference.

MS 4621 C6 DIAMOND CONSULTANCY
1957 Oct-Dec

Acquisition of specimens of synthetic diamond from GEC;
Diamond Research Committee; polarisation of luminescence in
diamond; absorption edge spectrum of diamond.

- MS 4621 C7** DIAMOND CONSULTANCY
1958 Jan-May
Diamond Research Committee; efforts to acquire specimens of
synthetic diamond from ASEA Sweden.
- MS 4621 C8** DIAMOND CONSULTANCY
1958 Aug-Dec
New metal evaporation technique; patenting of diamond
coloration process.
- MS 4621 C9** DIAMOND CONSULTANCY
1959 Jan-June
Chemical coloration of diamonds; 'Stigma' research programme.
- MS 4621 C10** DIAMOND CONSULTANCY
1959 July-Nov
Diamond Conference 1959; irradiation of diamonds.
- MS 4621 C11** DIAMOND CONSULTANCY
1960 Jan-May
Diamond Research Committee.
Includes report on diamond research at Reading University, 3pp
typescript + 3pp list of papers 1952-60, and summary of paper
'The Anisotropy of Magnetoresistance in semiconducting
diamond' by P J Kemmey and E W J Mitchell, 1p typescript.

- MS 4621 C12** DIAMOND CONSULTANCY
1960 June-Oct
Framesite; irradiation of diamonds.
- MS 4621 C13** DIAMOND CONSULTANCY
1961 Jan-Mar
Visit to UK by J F H Custers, Director of Research at the
Diamond Research Laboratory; annealing radiation damage in
diamonds.
Includes letter dated 24 February on Sir Gordon Sutherland's
announcement to the Royal Society the previous evening that
the National Physical Laboratory had successfully synthesised
diamonds.
- MS 4621 C14** DIAMOND CONSULTANCY
1961 Apr-July
E M Wilks's research programme at Reading; 'Moissan's
diamonds'.
- MS 4621 C15** DIAMOND CONSULTANCY
1961 Aug-Oct
'Chemical' method of drilling diamonds; patent on production of
artificial diamonds; coloration of diamonds.
Includes 'The coloration of small diamond brilliants by electrical
bombardment' by J F H Custers and F A Raal, 6pp typescript +
1p captions + illustration, and 'Electronic properties of diamond'
by E W J Mitchell, a report on research topics at Reading, 5pp
typescript.
- MS 4621 C16** DIAMOND CONSULTANCY
1961 Nov-Dec
Early attempts to synthesise diamonds.
Includes 'Comments by C D Clark on "Coloration of Diamonds
by Electron Irradiation"', 4pp typescript.

- MS 4621 C17** DIAMOND CONSULTANCY
1962
Colour measurement of diamonds.
- MS 4621 C18** DIAMOND CONSULTANCY
1964
T Evans's attempt to bond diamond particles by plastic deformation.
- MS 4621 C19** DIAMOND CONSULTANCY
1965
Plastic deformation of diamond.
- MS 4621 C20** DIAMOND CONSULTANCY
1967
Letter and abstracts from S K Dickinson re his research on diamonds, 18 December.
- MS 4621 C21** DIAMOND CONSULTANCY
1968
'Proposals for the continuation of financial support for diamond work at Reading', 10pp duplicated typescript.
- MS 4621 C22** DIAMOND CONSULTANCY
1969 and nd
Ditchburn's copies of covering letters sent with diamonds returned to South Africa, 3 February 1969.

'Replies to the questions asked about surface properties of diamond', nd, 5pp typescript with ms note 'Joint with Trevor E[vans]'

**MS 4621 D1-
D3** SCIENTIFIC CORRESPONDENCE
1950

Arnulf, A
Re night vision.

3 folders

**MS 4621 D1-
D34** SECTION D SCIENTIFIC CORRESPONDENCE

MS 4621 D4 SCIENTIFIC CORRESPONDENCE
1969-1970

Bach-y-Rita, P 1970
Includes note on V S S system for Bach-y-Rita. 1p typescript.
Blackie and Son Ltd 1969-70
Re reprinting Roberts' Heat and Thermodynamics.

MS 4621 D5 SCIENTIFIC CORRESPONDENCE
1942-1984

Blume, S S 1966
Branton, P 1984
Re Rapid Eye Movements (REMs).
Broderick, ?T S 1942
Re problem of statistical methodology.

MS 4621 D6 SCIENTIFIC CORRESPONDENCE
1967-1985

Buchsbaum, G 1985
Re colour perception.
Burmah Oil Co. Ltd 1975

Re laser fusion.
Burr, D C and Morrone, M C 1982
Butler, C C 1967

- MS 4621 D7** SCIENTIFIC CORRESPONDENCE
1985
Campbell, F W
Includes note on 'Shadows of the Retinal Blood Vessels', 2pp
ms + 2pp ms diagrams.
- MS 4621 D8** SCIENTIFIC CORRESPONDENCE
n.d and 1935-1966
Chadwick, J
Chadwick thanks Ditchburn for recommending him to the Nobel
Committee. He received the Nobel Prize for Physics 1935. 1935
Clark, C D nd
Constable and Co. Ltd 1966
Cotton, ? A 1949
- MS 4621 D9** SCIENTIFIC CORRESPONDENCE
1966-1967
Cratchley, E M 1966
Re producing variations in colour on stretched film by sound
waves.
Dale, S 1967
- MS 4621 D10** SCIENTIFIC CORRESPONDENCE
1966, 1973
Dyson, J
Principally re flash tubes.

- MS 4621 D11** SCIENTIFIC CORRESPONDENCE
n.d and 1967
Einstein, A nd
Photocopy of letter to E Pringsheim re polarisation of resonance radiation.
Emeleus, K G 1967
Re scattering of light.
- MS 4621 D12** SCIENTIFIC CORRESPONDENCE
1970-1981
Eric Bateman and Partners 1981
Re lenses.
Fellgett, P B 1976
Fishlock, D 1970
Fishlock, Science Editor of The Financial Times, wrote to Ditchburn enquiring about the scientific basis for the claim, made during a second world war government campaign, that eating carrots aided night vision. Ditchburn replied that through experiments it was ascertained 'that the average change [in night vision] was favourable but was not statistically significant'.
- MS 4621 D13** SCIENTIFIC CORRESPONDENCE
1927-1976
Franck, J 1927
Re pressure-broadening of spectral lines and Doppler effect.
Gaardner, K 1965
Garlick, G F J 1976
Re shadows of retinal blood vessels
- MS 4621 D14** SCIENTIFIC CORRESPONDENCE
n.d and 1980
Ginsborg, B L 1980
Glazebrook, R T nd
Letter to Ditchburn written between 1929, the date Ditchburn was made Professor at Dublin University, and 1935, the year of Glazebrook's death.

- MS 4621 D15** SCIENTIFIC CORRESPONDENCE
1966-1976
Goldberg, L 1966
Granit, R A 1967
Card thanking Ditchburn for his congratulations on Granit's receipt of the Nobel Prize for Medicine.
Gunn, A D G 1976
- MS 4621 D16** SCIENTIFIC CORRESPONDENCE
1946
Harper, W R
Letter re Harper's reconsideration of 'my diffraction paper' ('On the obliquity function to be used in the approximate theory of diffraction', Proceedings of the Cambridge Philosophical Society 25 (1929)).
With 5pp typescript notes 'Mature reflections on Proc. Camb. Phil. Soc. 25 (1929)', and reprint of original paper with Harper's ms corrections and additions, 1946.
- MS 4621 D17** SCIENTIFIC CORRESPONDENCE
1967-1982
Hilger and Watts Ltd 1967
Hopkins, H H 1972
Innisfree Electronics for Cathode Ray Images 1982
Re C R T Image Generator.
- MS 4621 D18** SCIENTIFIC CORRESPONDENCE
1960-1978
Institute of Physics 1978
Re reducing the size of the Institute's committee structure.
Jenkins, ?I G 1960
Kantor, W 1967

MS 4621 D19 SCIENTIFIC CORRESPONDENCE

1978-1980

Kelly, D H 1978, 1980

Includes letter of thanks for Kelly's hospitality during visit to California, 1980. With notes on papers by Kelly, 2pp typescript.

Lindberg, D C 1978

Re Lindberg's book Theory of Vision. With note on the camera obscura, 1p typescript.

MS 4621 D20 SCIENTIFIC CORRESPONDENCE

1975-1980

Logvinenko, A 1975

Mackay, D M 1980

Re paper by Mackay in Vision Research 19 (1979).

MacLeod, D 1980

MS 4621 D21 SCIENTIFIC CORRESPONDENCE

1965-1983

Medical Research Council 1965-66

Re project F A I R (Fast Access Information Retrieval).

Motz, H 1983

Copy of letter from P B Fellgett re draft of Motz's paper 'A Model for the Electrosimulation of the Nervus Acusticus, which Motz originally sent to Ditchburn.

Nissel and Co. Ltd 1981

Peelle, R W 1974-75

MS 4621 D22 SCIENTIFIC CORRESPONDENCE

1966-1980

Pickford, R W 1966

Re anomaloscope.

Pigassou, R 1976

Pike, E R 1980

Re damage damage threshold for lasers.

Includes calculation on damage threshold, 2pp typescript.

Pirenne, M H L 1966

MS 4621 D23 SCIENTIFIC CORRESPONDENCE

1972-1982

Precision Optics Ltd 1972

Riggs, L A 1982

Re Riggs' receipt of Ives Medal; measurement of eye movements during a blink.

Robson, J 1978

Rogers, G L 1980

Re system to 'back off' the natural curvature of the cornea.

MS 4621 D24 SCIENTIFIC CORRESPONDENCE

1974-1977

Rosenfeld, A R 1977

Re testing spectacle lenses.

Royal Society 1974, 1976

Includes 1976 National Academy of Sciences of USA

'Affirmation of Freedom of Enquiry and Expression' circulated to all members of Royal Society, with Ditchburn's letter to Lord Todd, PRS, explaining why he felt unable to sign the declaration.

MS 4621 D25 SCIENTIFIC CORRESPONDENCE

1978-1981

Schmidt, M J 1978

Re scleral contact lenses.

Seal, M 1981

MS 4621 SCIENTIFIC CORRESPONDENCE

D26-D28

1947

Searle, G F C

Principally re optical fringes and wedges.

3 folders

- MS 4621 D29** SCIENTIFIC CORRESPONDENCE
1971-1980
Series, G W 1972
Sheppard, N 1980
Re Royal Society memoir of Sir Gordon Sutherland, note on
Sutherland's work on diamonds.
Smith, R A 1971
Spillmann L A 1976
Re stabilized vision.
- MS 4621 D30** SCIENTIFIC CORRESPONDENCE
1932-1981
Thomson, J J 1932
Troscianko, T 1981
Re the Hermann grid illusion.
- MS 4621 D31** SCIENTIFIC CORRESPONDENCE
1970-1972
Whitcomb 1970
Re testing strength of lenses.
Wright, W D 1972
- MS 4621 D32** Wynne, C G
1958
Re Babinet's Principle, with 2pp typescript note.
- MS 4621 D33** Wynne, C G
1958
Material found with above, in folder labelled 'Physical Optics -
Misc.'
'The diffraction of light by a transparent cylinder immersed in a
medium of nearly the same refractive index', 3pp typescript.

Photograph, unidentified.
2pp ms calculations headed 'Obstacle Microscope'.

MS 4621 D34 Wynne, C G
1951-1970
Zikmund, V 1970
Re dedication of book Slovensko vo fotografii by K Plicka to
Ditchburn.
Unidentified 1951
Re zone-plate.
With 'selection of figures' headed 'X-zone-plate', 2pp typescript.

MS 4621 E1 NON-PRINT MATERIAL
1927
Group photograph of members of the Cavendish Laboratory
1927.
Four colleagues are identified on the back, [H J J]Braddick, Paul
White, [W A H] Rushton and [C G C] Chesters. The photograph
is dated May 1926 and 1927 in different hands. The latter is
probably correct; Rushton only returned to Cambridge (where he
had been an undergraduate) in 1927 from University College
Hospital London and neither he nor Chesters signed the
Cavendish Laboratory tribute to Sir J J Thomson in 1926
(NCUACS 6/5/88/B.39).

**MS 4621 E1-
E11** SECTION E NON-PRINT MATERIAL

MS 4621 E2 NON-PRINT MATERIAL
1947
Photographs taken at the Inaugural meeting of the Preparatory
Committee of the International Commission for Optics, Prague,
2 June 1947.
Includes group photograph with key.

- MS 4621 E3** NON-PRINT MATERIAL
1950
Group photograph of the Conference on the Properties of Semi-Conducting Materials, Reading University, 10-15 July 1950.
- MS 4621 E4** NON-PRINT MATERIAL
20 October 1966
Photographs from Sir James Chadwick's seventy-fifth birthday party
- MS 4621 E4A** NON-PRINT MATERIAL
c1966
Group photograph with signatures of those present.
- MS 4621 E5** NON-PRINT MATERIAL
1971
Group photograph of EGAS Conference
- MS 4621 E6** NON-PRINT MATERIAL
1973
Group photograph of the International Symposium for Synchrotron Radiation Users, Daresbury Nuclear Physics Laboratory, Lancs, 5-7 January 1973.
- MS 4621 E7** NON-PRINT MATERIAL
1985
Group photograph of the 47th Pugwash Symposium on Strategic Defences, London, 5-8 December 1985.

- MS 4621 E8** NON-PRINT MATERIAL
nd
Photographs found in envelope inscribed 'Visit of Physical Society to Pye's in Cambridge'
Includes group photograph.
- MS 4621 E9** NON-PRINT MATERIAL
nd
Group photograph of International Commission for Optics Conference, ? Germany
With key.
- MS 4621 E10** NON-PRINT MATERIAL
n.d
Mounted photographs and diagrams of the 'Reading normal incidence vacuum monochromator (UV)'.
- MS 4621 E11** NON-PRINT MATERIAL
n.d
Tape-recording of Ditchburn's 'Lecture on J J T'.