Catalogue of the papers and correspondence of

Sir Martin Ryle, FRS (1918-1984)

VOLUME 1

Introduction
Section A: Biographical
Section B: War work
Section C: Cambridge University
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By Anna-K. Mayer and Timothy E. Powell
NCUACS catalogue no.176/7/09

Catalogue of the papers and correspondence of
Sir Martin Ryle, FRS (1918-1984)

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By Anna-K. Mayer and Timothy E. Powell
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Catalogue of the papers and correspondence of

Sir Martin Ryle, FRS (1918-1984)
VOLUME 3

Index of correspondents

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SECTION A

BIOGRAPHICAL, A.1-A.424

early 1920s-1998

A.1-A.106 BIOGRAPHICAL ACCOUNTS AND MEMORIALS

A.107-A.189 EDUCATION

A.190-A.331 CAREER, HONOURS AND AWARDS

A.332-A.345 DIARIES

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A.369-A.380 PERSONAL CORRESPONDENCE

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A.403-A.414 PROPERTY AND FINANCE

A.415, A.416 HEALTH

A.417-A.424 MEMORABILIA

A.1-A.3 Obituaries and tributes 1984

A.1 Obituaries 1984

*The Times*, 16 October 1984.

*The Guardian*, by A.C.B. Lovell, 1984 (from Acc. 769/1).

*The Observatory*, December 1984.


This focuses on Ryle’s anti-nuclear views and activities.

Original at A.85.

From Acc 788/59.


From Acc 1200 and 1787.

A.3A Tributes and obituaries Oct 1984-Jul 2010

Includes: press cuttings of obituaries; notes for Ryle’s memorial service; biographical details, including a copy of Ryle’s marriage certificate; various tributes, including a draft of Ryle’s plaque in Trinity College, University of Cambridge (see also A.104) and prints of an Eminent Britons commemorative stamp featuring Ryle.

Acc 1787.

A.4-A.8 Recollections of Ryle 1985-1987

See also A.12-A.21.
A.4 ‘Recollections of Martin Ryle’ by Rosemary (Baldwin) Coffin, February/March 1985 1985

From Acc 1128/2.

A.5 Letter to Lady Ryle from J.A. Ratcliffe, September 1985 1985

The letter encloses Ratcliffe’s ‘Notes on Martin’, and two letters to Ratcliffe from J.A. Ryle (father), 1941 and 1946.

From Acc 1128/2.

A.6 Account of Ryle’s early years by J.A. Ratcliffe. ca 1985

Photocopy manuscript.

From Acc 1183.

A.7 ‘Alison [Ryle]’s account of Martin’s growing & widening concern’ 1985

From Acc 1128/2.

A.8 Letter to Lady Ryle from J.A. Ratcliffe, September 1985 1987

The letter encloses two letters from T.M. Charlton on ‘the aerial that blew down’ (in November 1957).

From Acc 1128/2.

A.8A “Martin’s work” Press cuttings, prints, photos etc recording Ryle’s work, collected mostly by his mother. Subjects include: alternative energy; nuclear power; winning the 1974 Nobel Prize for Physics; the opening and development of the Mullard Radio Astronomy Laboratory, Cambridge; Ryle’s appointment as Astronomer Royal; the Big Bang theory. Includes photographs of the Mullard, radio telescopes, and Ryle sailing.

Acc 1787.

A.9 Letters of condolence 1984, 1985

Unindexed.
From Acc 788/53, Acc 1128/2 and Acc 1787.


From Acc 769/1. Material duplicated elsewhere in this section has been discarded.

**A.10 Correspondence with Royal Society re preparation and publication of the memoir 1984-1986**

**A.11 List of publications 1984-1986**

**A.12-A.21 Recollections of Ryle 1984-1985**

10 folders.

In alphabetical order. At A.16-A.18 is material, including two accounts, from A.C.B. Lovell. At A.20 is account by Graham-Smith of Ryle’s contribution to radio astronomy. At A.21 is account by D.D. Vonberg of early postwar research.

**A.22, A.23 Manuscript notes on Ryle and his family background 1984-1985**

2 folders.

**A.24 Photocopied and printed background material 1984-1985**

A.25-A.27 Typescript draft of Memoir 1985
3 folders.

A.28-A.30 Comments on draft 1985
3 folders.
In alphabetical order.

A.31, A.32 Published Memoir 1986, 1987

A.33 Post-publication correspondence 1986-1988
Includes list of those to receive offprints.

A.34 Correspondence re archival material, including the recollections of Ryle produced for the memoir 1984, 1987

A.35-A.37 Cassette audiotapes 1985

A.35 'Ratcliffe talking to FGS about Martin Ryle Jan 1985' 1985
TDK AD90 tape.

A.36 'Feb 1985 Peter Hall interviewed by FG Smith (on Ryle)' 1985
Agfa C90 tape. Both sides used.
Hall talks about Ryle's wartime work at the Telecommunications Research Establishment.

A.37 'F.G. Smith talking to Paul Scott about Ryle's work on energy' 1985
Agfa C90 tape. Part of side 1 used only.
A.38  Entry for *Dictionary of National Biography*  
1996, 1997

The entry on Ryle for the DNB was written by M.S. Longair.

Letters to Lady Ryle from M.S. Longair; notes on her suggested amendments; copy of entry as sent to DNB.

From Acc 1200.

A.39-A.71  Profiles and interviews  
1960-1997

A.39  'Martin Ryle's Unseen Universe', *Image*, May 1960  
1960

From Acc 1125.

A.40  'Martin Ryle. Looking out to the edges of the universe', by Timothy Johnson, *(Illustrated London News)*, 30 October 1965  
1965

From Acc 1128.

A.40A  Interview by R. Hobart Ellis Jr for article ‘Britons seek closer relations between industry and university’, *Physics Today*, January 1968  
1967-1968

From Acc 1183.

A.41  'Is this how the world began?', *Observer magazine*, 2 February 1969  
1969

From Acc 1183.

A.42  Entry for Central Office of Information  
1972-1973

Covering letter; corrected draft; list of publications 1947-1973; etc.

From Acc 1183.

A.43  Entry for Ryle from *Current Biography*, vol 34, September  
1973
1973
From Acc 1200.

From Acc 748 and Acc 1183.
This interview was used for *Astronomy Transformed: the emergence of radio astronomy in Britain* by D.O. Edge and M.J. Mulkay (New York, 1976).

A.44-A.46 Partly corrected transcript, with covering letter from Edge. 1971
3 folders.
From Acc 748.

A.47-A.50 Draft of chapter 8. 1972
4 folders.
At A.47 are Ryle’s manuscript notes.
From Acc 1183.

A.51-A.54 Draft of chapter 10 1972
8 folders.
Correspondence from Edge at A.51.
From Acc 1183.

A.55 Interview by P.G. Westphal, 1974 1974
In German.
This interview was for a television programme for Zweites Deutsches Fernsehen.
From Acc 1183.

A.56 Letter from the National Geographic Society, USA, re captions for illustrations of Ryle’s work 1975
The illustrations were for the book *The Amazing Universe*. 
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td>A.57</td>
<td>Biographical profile of Ryle issued by the British Information Services, March 1976</td>
<td>1976</td>
</tr>
<tr>
<td>A.58-A.60</td>
<td>Transcript of interview, with manuscript corrections</td>
<td>1976</td>
</tr>
<tr>
<td>A.61, A.62</td>
<td>‘Ryle’s Group at the Cavendish’</td>
<td>1986</td>
</tr>
<tr>
<td>A.63</td>
<td>Correspondence with Lady Ryle</td>
<td>1986-1987</td>
</tr>
<tr>
<td>A.64</td>
<td>Profile on Ryle’s intellectual influences, for the Times Higher Educational Supplement</td>
<td>1980</td>
</tr>
<tr>
<td>A.65</td>
<td>Interview by D. Crawford, for the ‘Science Show’,</td>
<td>1983</td>
</tr>
</tbody>
</table>
Australian Broadcasting Corporation, 1982

*The Best of the Science Show* was a book based on interviews for Australian Broadcasting Corporation.

From Acc 1200.

A.66

'Living to fight another way', interview with M. Walker, *Guardian*, 30 September 1982

This article marked Ryle's retirement.

From Acc 788/61.

A.67

‘One man who made charting universe possible’, *Cambridge Evening News*, 1 October 1982

This article marked Ryle's retirement.

From Acc 788/61.

A.68

Account by D.D. Vonberg for 50th Anniversary of the Mullard Radio Astronomy Observatory, September 1995

From Acc 1200.

A.69

'Thoughts by Sir Martin Ryle, FRS, on War and Peace' N.d., 1997
Account transcribed by L. Brettingham, from rough manuscript notes by Ryle, n.d.

From Acc 1200.

A.70

Miscellaneous correspondence re interviews etc 1974-1981, n.d.
From Acc 788/57, Acc 1125, Acc 1183.

A.71

From Acc 788/61 and Acc 1183.
A.71A Cassette tape of Radio 4 “Profile” interview with Ryle nd

A.71B Articles 1958-72


Some duplicate material has been discarded.

‘Martin Ryle’s Letter’ was Ryle’s reply to a letter from Professor Carlos Chagas, President of the Pontifical Academy of Sciences, sent to him in January 1983. The reply only came to light after Ryle’s death. It was first published as ‘Martin Ryle’s last testament’ in the New Scientist, 14 February 1985 and then republished with an introduction by M. Rowan-Robinson and a personal memoir by Anthony Rudolf (publisher). It also appeared in Resurgence no 112 (see F.183) and a leaflet of the Campaign for Nuclear Disarmament.

See also F.183.

A.72 Photocopy of Ryle’s reply to Chagas [1983]

From Acc 1183.

A.73 New Scientist, 14 February 1985, featuring ‘Martin Ryle’s last testament’ 1985

From Acc 1183.

A.74 Miscellaneous manuscript notes, correspondence etc 1981-1985

found inside A.73.

Includes ‘Scientist battled to keep the peace’, profile of Ryle in Cambridge Evening News, 19 November 1985, following publication of Martin Ryle’s Letter; and photocopy

From Acc 1183.

A.75  
‘Letters replied to (about Martin & the New Scientist/Vatican Chagas Letter)’

Contents of Lady Ryle’s envelope so inscribed. Chiefly correspondence re posthumous invitations to Ryle to advise on Danish United Nations Association film on global problems, and to attend conference of the International Organization for the Study of Group Tensions.

From Acc 788/58.

A.76-A.79  
Drafts of ‘Introduction’ to *Martin Ryle’s Letter* by M. Rowan-Robinson

From Acc 788/58 and Acc 788/59.

A.76  
‘1st’, July 1985

From Acc 788/59.

A.77, A.78  
‘2nd Draft and letters re Michael Rowan Robinson’s Introductory Biography of Martin’

Contents of Lady Ryle’s envelope so inscribed: correspondence with Rowan Robinson; copy of first draft with alterations by family members; second draft.

2 folders.

From Acc 788/59.

A.79  
‘3rd draft August 1985’

From Acc 788/58.

A.80, A.81  
‘Correspondence with Anthony Rudolf (after ‘84) and Michael Rowan Robinson’

Contents of Lady Ryle’s envelope so inscribed. Includes photocopies of responses to ‘Martin Ryle’s last testament’
in the *New Scientist*, 28 February and 7 March 1985; draft of Rudolf’s personal memoir of Ryle.

2 folders.

From Acc 788/58.

A.82  

Contents of Lady Ryle’s envelope so inscribed.

From Acc 788/59.

A.83  

Contents of Lady Ryle’s envelope so inscribed.

From Acc 788/58.

A.84  
Published copy of *Martin Ryle’s Letter*  1985

From Acc 1128/3.

A.85  
Miscellaneous biographical items found with *Martin Ryle’s Letter* material  1984, 1985

Includes ‘Martin’s definition of unilateralism’, used by the St Neot’s branch of the Campaign for Nuclear Disarmament. Also duplicates of material at A.2, A.3 and A.73.

From Acc 788/59.

A.85 A  
Correspondence on *Martin Ryle’s Letter*  1982-86

Acc 1787.

A.86-A.101  
Newspaper cuttings  1945-1978

Cuttings of biographical, scientific and historical interest.

From Acc 769/12 and Acc 1183.

A.86-A.92  

Contents of folder so inscribed. At A.86 are 1945 cuttings
re contribution to the war effort of ‘boffins’, radar etc. At A.90-A.92 are cuttings reporting the announcement by Ryle and his team of evidence to back the ‘Big Bang’ theory, February 1961, the arguments against from Hoyle, and subsequent discussion.

7 folders.
From Acc 769/12.

A.93-A.99

‘Newspaper cuttings = 26. Pt II. 1957-61 (plus one 1948)’

Contents of folder so inscribed: chiefly re the announcement by Ryle and his team of evidence to back the ‘Big Bang’ theory in February 1961. Also includes coverage of Cambridge’s new radio astronomy telescope and work of Ryle tracking Soviet satellite, 1957.

Cuttings duplicating those at A.86-A.92 have not been retained.

7 folders.
From Acc 769/12.

A.100, A.101

Other newspaper cuttings

2 folders.
From Acc 1183.

A.101A

Press cuttings: "Martin’s Press!"

Cuttings on Ryle’s career, including some photographs of Ryle with radio telescopes, and with the Dalai Lama on his visit to Cambridge, 1973. Also includes Professor George Gamow’s poem “Said Ryle to Hoyle”, and Edith Anne Robertson’s poem “The Radar Telescope”, and the text of a song about the Radio Group.

Acc 1787.

2 files

A.102-A.106

Memorials and archives

1985-1998

From Acc 788/59, Acc 1128/1 and Acc 1200.

A.102, A.103

Archives

1987-1998

See also A.34.
From Acc 1128/1 and Acc 1200.

A.102

Correspondence between Lady Ryle, staff of Churchill Archives Centre and others re disposition of Ryle's archives

From Acc 1128/1 and Acc 1200.

A.103

Correspondence re location of items in the Ryle archives

The correspondence concerns Ryle’s 1958 Bakerian lecture and his talk of 10 February 1961 to the Royal Astronomical Society ‘An examination of the steady-state model in the light of some recent observations of radio sources’. Ryle’s original manuscript draft of the latter was presented to Trinity College Cambridge. A copy is included here.

From Acc 1200.

A.104

Plaque, Chapel of Trinity College Cambridge

Copy of Latin inscription on plaque, with English translation.

From Acc 1200.

A.105

Original manuscript of ‘Statement’ by Ryle beginning ‘Our world is one’

Found with A.104.

Folder also includes short manuscript autobiographical reflections by Ryle on back of card.

A note on the envelope by Lady Ryle records, ‘1987 - My feeling is that Martin’s scribble on this should be framed + go to Cavendish + be put up where it can be seen!’.

From Acc 1200.

A.106

The Martin Ryle Trust, Scientists Against Nuclear Arms (SANA)

The Trust was established by M.J. Pentz under the auspices of SANA.

1987-1998

1987-1988

1988

ca 1983-1984

1985
Ryle attended Gladstone’s Preparatory School in London before going on to Bradfield College, Berkshire at the age of 13.

This material is chiefly science notebooks from Ryle’s time at Bradfield College. Many have loose notes intercalated within them.

From Acc 769/29, Acc 769/30 and Acc 1128/2.

<table>
<thead>
<tr>
<th>A.107-A.189 EDUCATION</th>
<th>early 1930s-1948</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.107-A.123 School</td>
<td>early 1930s-1936</td>
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</table>

<table>
<thead>
<tr>
<th>A.107</th>
<th>Hardback notebook inscribed ‘Botany’ on front cover</th>
<th>1931x1936</th>
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<td></td>
<td>From Acc 769/30.</td>
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<tr>
<th>A.108</th>
<th>Red hardback notebook inscribed inside front cover</th>
<th>1933</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>‘1/11/33’</td>
<td></td>
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<tr>
<td></td>
<td>Used for chemistry notes.</td>
<td></td>
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<td></td>
<td>From Acc 769/30.</td>
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</tbody>
</table>

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<tr>
<th>A.109</th>
<th>Red hardback notebook</th>
<th>1931x1936</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Used for chemistry notes, chiefly on salts.</td>
<td></td>
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<td></td>
<td>From Acc 769/30.</td>
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</tbody>
</table>

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<tr>
<th>A.110</th>
<th>Red hardback notebook</th>
<th>1931x1936</th>
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<tbody>
<tr>
<td></td>
<td>Used for chemistry notes.</td>
<td></td>
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<tr>
<td></td>
<td>From Acc 769/30.</td>
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</tbody>
</table>
A.111  Red hardback notebook
Used for chemistry notes.
Loose at back are two manuscript notes apparently referring to Ryle's plans for the future.
From Acc 769/30.

A.112  Green hardback 'Physics Book' inscribed on first page '1.10.35 Wireless & Electrical Experiments, & Circuits'
At back is list of 'Addresses' [sic] of electrical equipment suppliers.
From Acc 769/29.

A.113  Green hardback 'Physics Book' inscribed on head 'General Physics' and inside 'Sc: VIth'
From Acc 769/33.

A.114  Green hardback 'Physics Book' inscribed on head '1 Electricity (I)'
From Acc 769/29.

A.115  Green hardback 'Physics Book' inscribed on head '2 Electricity (II)'
From Acc 769/29

A.116  Green hardback 'Physics Book' inscribed on head '3 Light'
From Acc 769/29.

A.117  Green hardback 'Physics Book' inscribed on head '4 Heat'
Also contains notes on Gases.
From Acc 769/29.
A.118  Green hardback ‘Physics Book’ inscribed on head ‘5 Properties of matter’ 1931x1936
Most pages not used.
From Acc 769/29.

A.119  Green hardback ‘Physics Book’ inscribed on head ‘6 Practical’ ca 1935
Used for physics practicals. Some work from Spring term 1935.
From Acc 769/29.

A.120, A.121  Contents of binder 1931x1936
Divided into two for ease of reference.
Includes timetable; chemistry notes; question sheets for Senior Mathematics.
From Acc 769/30.

A.122  Essay on resonance 1936
From Acc 769/30.

A.123  Higher School Certificates 1934-1936
From Acc 1128/2 and Acc 1787.

A.124-A.189  University 1936-1948
Ryle entered Christ Church, Oxford, in 1936. He graduated with First Class Honours in Physics in 1939 and received his MA in 1943. See also A.225.

A.124-A.159  Notebooks 1936-1940, 1948
Science notebooks from Ryle’s time at Christ Church College, Oxford. Many have loose notes intercalated within them. Most are undated.
The series begins with general physics and chemistry notebooks and the remainder are presented in alphabetical order by topic (as far as possible).

A.124 Hardback notebook inscribed ‘General physics (Kealey)’ on front cover ca 1936
From Acc 769/32.

A.125 Hardback notebook labelled ‘Physics 19.1.37’ on front cover and ‘Physics I’ on spine 1937
From Acc 769/31.

A.126 Hardback notebook labelled ‘Physics II’ on front cover and ‘Physics A’ on spine ?1937
From Acc 769/33.

A.127 Hardback notebook labelled ‘Physics A2 B’ on front cover and ‘Physics [illegible]’ on spine 1937x1939
From Acc 769/31.

A.128 Hardback notebook inscribed ‘A3 (Collie)’ inside front cover 1937x1939
From Acc 769/32.

A.129 Hardback notebook inscribed ‘Practical (Clarendon)’ on first page 1937
Much intercalated material throughout.
From Acc 769/34.

A.130 Hardback notebook labelled ‘Chemistry 19.1.37’ on front cover and ‘Chemistry I’ on spine 1937
From Acc 769/33.
<table>
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<tr>
<td>A.131</td>
<td>Hardback notebook labelled ‘Chem: II’ on front cover</td>
<td>1937x1939</td>
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<td>From Acc 769/33.</td>
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<tr>
<td></td>
<td>From Acc 769/31.</td>
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<tr>
<td>A.133</td>
<td>Hardback notebook labelled ‘Crystallography’ on front cover</td>
<td>1936x1939</td>
</tr>
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<td></td>
<td>From Acc 769/33.</td>
<td></td>
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<tr>
<td>A.134</td>
<td>Hardback notebook inscribed ‘A.C.’ on front cover</td>
<td>1936x1939</td>
</tr>
<tr>
<td></td>
<td>Used for notes on electricity.</td>
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<tr>
<td></td>
<td>From Acc 769/32.</td>
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</tr>
<tr>
<td>A.135</td>
<td>Hardback notebook inscribed ‘Electricity. Practical’ on front cover</td>
<td>1936x1939</td>
</tr>
<tr>
<td></td>
<td>Much intercalated material throughout.</td>
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<tr>
<td></td>
<td>From Acc 769/33.</td>
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<tr>
<td>A.136</td>
<td>Hardback notebook inscribed ‘Electricity &amp; Magnetism (Prof. Townsend)’ on front cover</td>
<td>1936x1939</td>
</tr>
<tr>
<td></td>
<td>From Acc 769/32.</td>
<td></td>
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<tr>
<td></td>
<td>Used for notes on electricity and magnetism.</td>
<td></td>
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<tr>
<td></td>
<td>From Acc 769/32.</td>
<td></td>
</tr>
<tr>
<td>A.137</td>
<td>Hardback notebook inscribed ‘Practical (Electricity &amp; Magnetism)’ on first page</td>
<td>1937</td>
</tr>
</tbody>
</table>
Much intercalated material throughout.
From Acc 769/33.

A.138  Softback notebook  1936x1939
Used for notes on electricity practical work.
From Acc 769/34.

A.139  Hardback notebook inscribed ‘Electricity in Gases’ on front cover  1936x1939
Included in the material intercalated is a manuscript notice for the Oxford University Physical Society, by Ryle.
From Acc 769/32.

A.140  Hardback notebook inscribed ‘Electromagnetism’ on first page  1936x1939, 1948
Loose at front are jottings on verso of Royal Astronomical Society 1948 Committee membership list.
From Acc 769/31.

A.141  Hardback notebook inscribed ‘Infrared Spectroscopy’ on front cover  1936x1939
From Acc 769/31.

A.142  Hardback notebook  1936x1939
Used for notes on Light.
From Acc 769/31.

A.143  Hardback notebook inscribed ‘Magnetism’ on front cover  1936x1939
From Acc 769/34.
A.144  Hardback notebook  1936x1939
Used for notes on mathematical physics.
From Acc 769/32.

A.145  Hardback notebook inscribed ‘Meteorological Physics’ on front cover  1936x1939
From Acc 769/31.

A.146  Hardback notebook inscribed ‘Nuclear Physics’ on front cover  1936x1939
From Acc 769/31.

A.147  Hardback notebook inscribed ‘Nuclear Quantum + Wave-Mechanics’ on front cover  1936x1939
Notes at rear on ‘Kinetic theory’.
From Acc 769/31.

A.148  Hardback notebook inscribed ‘Optics’ on front cover  1936x1939
From Acc 769/33.

A.149  Hardback notebook inscribed ‘Photometry & Photoelectricity’ on first page  1936x1939
From Acc 769/31.

A.150  Hardback notebook  1936x1939
Used at front for notes on ‘Rhombic array’.
At back are notes taken at ‘Signal School 12/12/39’.
From Acc 769/33.

A.151  Hardback notebook inscribed ‘Spectroscopy’ on first page  1936x1939
<table>
<thead>
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<tbody>
<tr>
<td>A.152</td>
<td>Hardback notebook inscribed ‘Theoretical Physics (Collie)’ on first page. Used at the back for ‘Transformations of partial differential coefficients of the first order’. From Acc 769/32.</td>
</tr>
<tr>
<td>A.153</td>
<td>Hardback notebook inscribed ‘Thermodynamics’ on front cover. Most pages not used. From Acc 769/33.</td>
</tr>
<tr>
<td>A.154</td>
<td>Hardback notebook inscribed ‘Valves &amp; Valve circuits’ on first page. From Acc 769/34.</td>
</tr>
<tr>
<td>A.155</td>
<td>Hardback notebook. Used for notes on experiments on specific heat of copper at low temperatures, and light. Most pages not used. From Acc 769/34.</td>
</tr>
<tr>
<td>A.156</td>
<td>Hardback notebook. Used for physics notes. From Acc 769/34.</td>
</tr>
</tbody>
</table>
A.158  Softback notebook  1936x1939
Most pages not used.
Loose at front are Clarendon Laboratory test papers Hilary Term 1939.

From Acc 769/32.

A.159  Hardback notebook inscribed ‘K.G. Budden. St John’s College Cambridge’ inside front cover  1939-1940
Used from 25 November 1939-February 1940. Most notes in Budden’s hand, a few later notes in Ryle’s hand.
Intercalated material includes Ryle’s application to use Cambridge University Library for research on radio physics, dated November 1939.

From Acc 769/32.

A.160-A.166  ‘Some of Martin’s Oxford (Student) papers’  1936-1939
Contents of envelope so inscribed by Lady Ryle.

From Acc 769/35.

A.160-A.165  Manuscript notes, jottings etc
6 folders.

A.166  Oxford memorabilia re academic studies, club memberships, etc

A.167-A.170  Contents of binder  1936x1939
Physics essays by Ryle. Most of the essays have been marked.
4 folders.

From Acc 769/30.
A.171-A.175 Contents of ring binder titled ‘Martin’s book’ 1936x1939
The title is in Lady Ryle’s hand.
Manuscript notes, jottings etc on physics and mathematics.
5 folders.
From Acc 788/60.

A.176, A.177 Contents of ring binder 1936x1939
Manuscript notes on mechanics, elasticity, viscosity etc.
2 folders.
From Acc 769/34.

A.178-A.188 Contents of ring binder 1936x1939
Manuscript notes on chemistry; duplicated typescript sheets
11 folders.
From Acc 1183.

A.189 Miscellaneous official University and College documentation 1936-1945
Includes entrance, College dues, graduation and MA.
From Acc 769/27, Acc 769/35, Acc 788/60 and Acc 1128/2.

A.190-A.331 CAREER, HONOURS AND AWARDS 1939-1984
See also RYLE section L

A.190 Appointment to and service with Air Ministry Research Establishment (later Telecommunications Research Establishment) 1939-1945
From Acc 769/16, Acc 788/60 and Acc 1128/2.
A.191  ICI Fellowship

Also includes rough draft of application letter to Institution of Electrical Engineers for Associate Member status.

Ryle successfully applied for an ICI Fellowship to study at Cambridge. He resigned the Fellowship in 1947 on his appointment as Lecturer.

From Acc 788/60 and Acc 1128/2.

A.191A  Hamilton Prize for 1947

Ryle received this Cambridge University prize for radio research jointly with D.D. Vonberg.

From Acc 769/3.

A.192-A.196  Fellowship of the Royal Society

Ryle's citation records that he was ‘Leader of a research team which has obtained results of the greatest importance in radio astronomy. Distinguished for his work both on the theoretical and experimental sides. By ingenious design of simple aerial arrangements and by using phase-switch methods has obtained very high resolving power with his Michelson-type interferometer for locating radio stars. Fertile in new ideas both for elegant and simple experimental devices, and for new theories of the origin of the radiations, he has obtained world-wide recognition as a leading expert in this interesting and important branch of science. In charge of group responsible for design of radar jamming equipment for Bomber Command during the last war.’

From Acc 769/13.

See also RYLE L.1.

A.192  Notes of newly elected Fellows etc., newspaper cutting, list of letters sent in reply to congratulations

A.193-A.196  Letters of congratulation

With drafts of Ryle’s replies to some.

Retained in order found, not indexed.

4 folders.
Royal Society Hughes Medal for 1954

Ryle received the Hughes Medal ‘for his distinguished and original experimental researches in radio astronomy’.

From Acc 769/13 and Acc 769/27.

See also RYLE L.2

Announcement

From Acc 769/27.

Letters of congratulation

Not indexed.

From Acc 769/27.

Drafts of letters of reply

From Acc 769/13.

Cambridge Philosophical Society Hopkins Prize for 1954

Disruption caused by the Second World War had caused a three-year delay in the award of the prize.

From Acc 769/27.

Appointment to Chair in Radio Astronomy, University of Cambridge

Letters of congratulation.

Not indexed.

From Acc 769/13.

Royal Astronomical Society Gold Medal

From Acc 788/58 and Acc 1183.

See also RYLE L.4
A.203  US National Academy of Sciences Henry Draper Medal  1965

Ryle was unable to collect the prize in person. It was collected on his behalf by E.C. Bullard.

From Acc 1183.

See also RYLE L.5

A.204  Institute of Physics and Société Physique de Français Holweck Prize  1965

The Prize was presented at the meeting of the Société Physique de Français, September 1965.

Includes typescript of Ryle’s paper ‘Radio Galaxies’ and group photograph of the meeting at the Observatoire de Haute Provence (includes Ryle).

See also RYLE K.150 and L.6.

From Acc 769/9, Acc 788/61 and Acc 1183.


A.205  Arrangements for investiture

From Acc 788/54, Acc 788/61, Acc 1128/2 and Acc 1787.

A.206-A.213  Letters of congratulation

Retained in order found, not indexed.

8 folders.

From Acc 769/27.

A.214-A.216  Letters of congratulation to Lady Ryle

Contents of two envelopes. Not indexed.

3 folders.

From Acc 788/54.
Menu for Dinner in Honour of Ryle given by the Mullard Company, 18 October 1966

The menu is signed on the back by those present.

From Acc 769/27.

Honorary Doctor of Science, University of Strathclyde, 1968

Correspondence and programme, draft of speech on behalf of the graduands, list of publications.

See also D.24, K.151-K.153 and L.7.

From Acc 769/15.

Foreign Member, Royal Danish Academy of Sciences and Letters, 1968

From Acc 1183.

See also RYLE L.8.

Gresham’s Professor of Astronomy, City University, London

Appointment for 1968. Ryle served as Professor for only one year.

From Acc 1183.

Establishment of Martin Ryle Society, Bradfield College

From Acc 1183.

Honorary Doctor of Science, University of Oxford, 1969

From Acc 788/58.

Invitation and correspondence

From Acc 788/58.

Programme for encaenia, 25 June and related events

From Acc 788/58.
A.224  Addresses for honorary graduands and Oratio Creweiana
   In English and in Latin.  1969

A.225  Degree certificates  1945, 1969
   BA, MA (1945) and DSc (1969).
   Also includes certificate of attendance at Christ Church (1945).

A.226  Foreign Member, American Academy of Arts and Sciences, 1970  1970-1971
   Correspondence, certificate.
   From Acc 1183.
   See also RYLE L.9.

   Correspondence.
   From Acc 1183.
   See also RYLE L.10.

A.228-A.230  Institute of Electrical and Electronics Engineers Morris N.
               Liebmann Memorial Prize Award  1969-1971
   The Liebmann Award was for ‘Important contributions to radio and allied arts recognized during the preceding three calendar years’. It was presented to Ryle, ‘For his contributions in applying aperture synthesis to extend the capabilities of radio telescopes, thereby increasing man’s knowledge of the Universe’. He received it at the AGM of the UK and Ireland Section, London, 11 February 1971.
   From Acc 769/19 and Acc 1183.
   See also RYLE L.11.

A.228  Correspondence  1969-1970
   From Acc 1183.
A.229 Manuscript draft of speech of thanks. 1971
From Acc 1183.

A.230 Programme; announcement in IEE News 1971
From Acc 769/19 and Acc 1183.

From Acc 769/27 and Acc 1183.
Ryle received the Medal ‘For his development of techniques of radio interferometer measurement, in particular the techniques of aperture synthesis; for his preparation of charts of radio sources of greatly improved resolution and accuracy; and for his scientific leadership’. It was received on his behalf by the British Consul General in Philadelphia at the Institute’s Medal Day Dinner on 20 October 1971 on which occasion Ryle was also elected Life Fellow.
See also RYLE L.12.

A.231 Correspondence 1971, 1977
Includes portrait photograph of Ryle.
Letter of 1977 encloses membership card.
From Acc 769/27 and Acc 1183.

A.232 Medal citation, Life Fellow membership certificate 1971
From Acc 769/27 and Acc 1183.

Ryle was elected to the Academy of Sciences of the USSR in 1971 and awarded the Popov Medal the same year. He received the Medal at a formal ceremony at the Soviet Embassy.
Correspondence re arrangements and notes for Ryle’s acceptance speech.
2 folders.
From Acc 788/58, Acc 1183 and Acc 1787.
See also RYLE L.13-14.

Ryle succeeded Sir Richard Woolley as Astronomer Royal.
He retired from the post in 1982.
From Acc 788/54 and Acc 1183.
See also RYLE L.15.

A.235  Appointment as Astronomer Royal  1972
From Acc 1183.

A.236-A.241  Letters of congratulation etc  1972-1973
Retained in order found, not indexed.
6 folders.
From Acc 788/54 and Acc 1787.

A.242  Copy of letter from Ryle informing the Prime Minister of his retirement from the post from September 1982  1982
From Acc 1183.

A.243  Freeman and Liveryman of the Worshipful Company of Clockmakers, 1972  1972
Invitation to become a member of the Company.
From Acc 1183.

A.244  Honorary Member, Radio Society of Great Britain  1972
From Acc 1183.

A.245  Honorary Member, Royal Astronomical Society of Canada,  1973
1973
From Acc 1183.

A.246-A.248 Honorary Doctor of Science, Nicolaus Copernicus University, Torun, Poland, 1973
From the late 1950s Ryle had advised the University on radio-astronomical work and on building a large interferometer for its Observatory.
From Acc 788/58, Acc 1128/1 and Acc 1183.
See also RYLE L.16.

A.246 Correspondence re arrangements
The award was received on Ryle's behalf by the British Ambassador to Poland.
From Acc 1183.

A.247 Programmes in English and Polish, citation, etc
From Acc 788/58 and Acc 1128/1.

A.248 Three photographs, inscribed on back
Two photographs of award ceremony; one of a Polish student of Ryle's.
From Acc 1183.

A.249-A.251 Royal Society Royal Medal for 1973
Ryle received the award for his 'distinguished contributions to radio astronomy'.
From Acc 769/27.
See also RYLE L.17.

A.249 Correspondence re arrangements
1973-1974

A.250, A.251 Letters of congratulation
1973
Retained in order found, not indexed.
2 folders.

Ryle received this Medal from Geoffrey Burbidge during the course of a Conference on Origin and Abundances of Chemical Elements at the Cambridge Institute of Astronomy, August 1974.

From Acc 1183.
See also RYLE L.18.

A.253, A.253A  Member, Deutsche Akademie der Naturforscher Leopoldina,  1974, 1977
A.253A is Medal commemorating 325th Anniversary (1977).

1 folder, 1 box.
From Acc 1200, Acc 1183.

A.254  Honorary President, Astronomical Society of Glasgow  1974
See also H.1.
From Acc 1183.

A.255  Honorary Member, Trinity Mathematical Society, Cambridge  1974
Invitation to become a member.
From Acc 1183.

A.256  Honorary Fellow, Institute of Physics 1974  1974
From Acc 1127 and Acc 1183.

Duplicate material (e.g. typescripts and printed copies of Ryle’s Nobel Lecture) has not been retained.

The 1974 Nobel Prize for Physics was awarded to Ryle and Antony Hewish ‘for their pioneering research in radio astrophysics: Ryle for his observations and inventions, in particular of the aperture synthesis technique, and Hewish for his decisive role in the discovery of pulsars’.

From Acc and Acc 1183.

See also RYLE L.19.

A.257 Nomination 1963-1968

Ryle appears to have been first considered as a possible recipient in 1963.

From Acc 1183.

A.258, A.259 Announcement and arrangements 1974-1975

2 folders.

From Acc 788/54 and Acc 1183.

Ryle was advised by his doctor not to travel to Sweden for the prize-giving on 10 December. The prize was received on his behalf by Hewish who also read his Lecture. Ryle also received and declined invitations to associated events in Sweden.

A.260-A.262 Biographical information 1974

From Acc 788/54 and Acc 1183.

A.260 Biographical statement and list of scientific papers 1974

From Acc 1183.

A.261 Russian language biographies of Ryle and Hewish 1974

From Acc 788/54.

A.262 Photographs 1974

Photographs of Ryle, Hewish, Ryle and Hewish together,
and the Mullard Observatory.

8 photographs.

From Acc 1183 and Acc 1787.


These were found in a number of separate folders, envelopes and loose. Some have carbon copies of Ryle's replies.

Not indexed.

From Acc 788/54, Acc 788/61 and Acc 1183.

A.263-A.265  'Answered'

3 folders.

From Acc 788/54.

A.266  'Some Nobel letters'

From Acc 788/54.

A.267, A.268  'Nobel prize letters'

2 folders.

From Acc 788/54.

A.269-A.272  'Needing answer (Nobel)'

4 folders.

From Acc 788/54.

A.273  Hand-drawn card of congratulation citing Patrick Moore, 'It isn't really a telescope'

From Acc 788/61.
A.274-A.276 'Nobel'
3 folders.
From Acc 1183.

A.277-A.284 'Nobel filing'
8 folders.
From Acc 1183.

A.285, A.286 Loose letters
2 folders.
From Acc 1183.

Ryle’s Nobel lecture was titled, ‘Radio telescopes of large resolving power’ and reviewed the history of and progress in the field, focusing on work at Cambridge. It was delivered in Ryle’s absence by Hewish. Much of the material relates to the subsequent publication of the lecture.
From Acc 769/9, Acc 788/54 and Acc 1183.

A.287 Manuscript draft
From Acc 769/9.

A.288 Typescript draft
From Acc 1183.

A.289-A.291 Prepublication copy and proofs
3 folders.
From Acc 1183.

A.292 Copy of Nobel Lecture as published by the Nobel 1975
Foundation
From Acc 1183.

A.293 Figures
From Acc 1183.

A.294 Correspondence re publication by the Royal Swedish Academy of Sciences
1975
From Acc 1183.

A.295 Correspondence re publication in Science
1975
From Acc 1183.

A.296 Correspondence re publication in Reviews of Modern Physics
1974-1755
From Acc 1183.

A.297 Correspondence re publication in Europhysics News, including copy of 'shortened version'.
1974-1975
From Acc 788/54 and Acc 1183.

A.298 Correspondence re publication of extracts in Adventures in Experimental Physics, including drafts of pieces to be included
1975
From Acc 1183.

A.299 Shorter typescript version of Nobel Lecture for unidentified publication
1974/1975
From Acc 1183

A.300 Manuscript draft 'The 5km R.T. 15 Oct. 1974'
1974
Found with Nobel Lecture material and probably used in the writing of it.
From Acc 1183.

A.301 Manuscript notes
Found with Nobel Lecture material and probably used in the writing of it.
From Acc 1183.

A.302 Swedish language and Czech language editions of lecture
Correspondence re publication.
From Acc 1183.

A.303 Chinese and Japanese language editions of lecture
From Acc 788/54 and Acc 1183.

A.304 Russian language edition of lecture
Correspondence, published copy.
From Acc 1183.

A.305-A.309 Newspaper cuttings
5 folders.
From Acc 769/27 and Acc 1183.

A.310-A.318 Correspondence and papers arising
From Acc 1183.

A.310 Requests for photographs
1974-1979
A.311-A.314 Requests for autographs 1974-1979
4 folders.

A.315 Cambridge celebrations 1975

Invitation to supper at University Centre, 8 January; speech in Ryle's honour at the 'annual Trinity College Nobel Prize party', January; correspondence re reception at Cambridge Guildhall, 27 February.

A.316 Visit to Cambridge by the King of Sweden, 12 July 1975 1974-1975

Correspondence re arrangements.

The visit included a tour of the Mullard Radio Astronomy Observatory. See also A.331 A and C.513.

A.317, A.318 Miscellaneous letters and invitations arising 1974-1983
2 folders.

A.319 Miscellaneous

Includes note by Ryle on possible distribution of Nobel Prize money; photographs of Ryle and Hewish.

From Acc 769/27, Acc 788/54 and Acc 1183.

A.320 Foreign Associate, US National Academy of Sciences 1975

Includes autobiographical outline.

From Acc 1183.

See also RYLE L.20.

A.321 Honorary Life Member, New York Academy of Sciences 1975-1976

From Acc 1183.

A.322 Academician, Pontifical Academy of Sciences 1975-1976

Includes autobiographical information in English and French and list of papers.
From Acc 769/27, Acc 1183 and Acc 1787.
See also RYLE L.21.

A.323  Institute of Measurement and Control Sir George Thomson
Gold Medal for 1978

The Medal was received on Ryle’s behalf by Dr Bruce
Elsmore.

From Acc 1183.
See also RYLE L.22.

A.324  Membership of the Albert Einstein Society, Karachi,
Pakistan, 1982

From Acc 1183.

A.325  Foreign Fellow, Accademia Nazionale dei Lincei, Italy

From Acc 1183.
See also RYLE L.23.

A.326  Honorary Member, Kungliga Sällskapet (Royal Society),
Sweden

From Acc 1183.

A.327  Retirement from Professorship

From Acc 1183.

A.327A  Book of tributes presented to Ryle on his retirement from
the University, 1982, along with photographs of the
occasion.

Acc 1789

A.328  Honorary Fellowship, Institution of Electronics and
Telecommunication Engineers, India

From Acc 769/27.

A.329  Honours declined

1969, 1970
A.330 Honorary degrees declined 1974-1977
From Acc 1183.

A.331 Letters of congratulation for unidentified awards 1956, 1958
From Acc 1183.

A.331 A Invitations 1948-1979
Cards of invitation to various official events, including arrangements for the visit of the King of Sweden to Cambridge, 1975 (see also A.316 and C.513).
The majority of folios date from the 1970s.
From Acc 1787.

A.332-A.345 DIARIES 1941-1975
With the exception of A.333, all are pocket diaries.
For diary 1950-1951 see D.62.
From Acc 769/37 and Acc 1128.

A.332 Collins Diary 1941
From Acc 769/37.

A.333 Heffer's Diary 1947-8
From Acc 769/37.

A.334 Collins Diary 1949
From Acc 769/37.

A.335 Cambridge 1952-1953
From Acc 1128.

A.336 Cambridge 1953-1954
From Acc 769/37.

A.337 Cambridge 1955-1956
From Acc 1128.

A.338 Cambridge 1956-1957
From Acc 769/37.

A.339 Cambridge 1957-1958
From Acc 769/37.

A.340 Cambridge 1958-1959
From Acc 1128.

A.341 Cambridge 1959-1960
From Acc 1128.

A.342 Cambridge 1960-1961
From Acc 1128.

A.343 Cambridge 1962-1963
From Acc 769/37.

A.344 Cambridge 1965-1966
From Acc 1128.
A.345  Cambridge 1974-1975
From Acc 769/37.

A.346-A.368  FAMILY

See also A.5.

A.346-A.350  'Martin's early letters + holiday diary 1924 (from among his mother's things)'
early 1920s-1940s

Contents of Lady Ryle’s envelope so inscribed.
The envelope was also inscribed ‘Ask Anthony M's wasp + marmite stories! (+ others)’.
From Acc 1128/2.

A.346  'The Botany Book'
early 1920s

A.347  Holiday diary 15 August-14 September 1924
1924

A.348  Letters written from Bradfield College
1931x1936

A.349  Letters written while an undergraduate
1936x1939

A.350  Wartime letters
1941-1945

A.351  Correspondence with parents
1930s-n.d.
Includes letters home from school.
From Acc 1128/2

A.352  Correspondence from J.A. Ryle, father
1945
From Acc 769/2 and Acc 769/3.

A.353-A.357  Correspondence from M. Ryle, mother  1945-1979
5 folders.
From Acc 769/2, Acc 769/3, Acc 788/50, Acc 788/61, Acc 1128/3 and Acc 1183.

A.358  Biography of J.A. Ryle  1994
From Acc 1128/3.

Found in envelope with note ‘Essays by John Ryle (Martin's father) c 1949’.
7 folders.
The drafts and published pieces A.359-A.361 seem to have been intended as chapters in a book of essays by J.A. Ryle (father). They are philosophical in tone and include ‘Science and Humanism’, ‘Moral Diathesis’, ‘Juvenile crime: the study of causes’ and reports of the Institute of Social Medicine, Oxford. A.362-A.365 is ‘Some medical aspects of fear’, a thesis by J.C. Ryle (elder brother) written on wartime observations on board Royal Navy vessels.
From Acc 769/27.

From Acc 769/16.

A.367  Poems by Lady Ryle  1965, 1967
Includes manuscript of 'My love song for Martin'.
From Acc 1128/1.

A.368  Miscellaneous items from children and grandchildren  N.d.
From Acc 788/53 and Acc 1128/1.
A.368 A  Lecture on John Charles Ryle, 1816-1900, Bishop of Liverpool  
Acc 1787.  N.d.

A.368 B  Sketch of Alison Ryle by Margaret Roberts  
Acc 1787.  1963

A.369-A.380  PERSONAL CORRESPONDENCE  1945-1987

A.369-A.375  Correspondence to Robert Reynolds  1945-1984

Reynolds was a friend of Martin’s from his undergraduate days at Oxford.

The letters chiefly report on work, family, holidays and other domestic news.

In reverse chronological order.

7 folders.

From Acc 1128/1.


Includes a little posthumous correspondence.

In chronological order.

4 folders.

From Acc 788/50, Acc 788/58, Acc 1125, Acc 1128/2 and Acc 1183.

A.380  Drafts of letters etc  1982, n.d.

Includes manuscript copy of Martin’s letter to ‘Byph and Graham’ outlining some of his philosophy, 1982.

From Acc 1128/2.


Ryle was an enthusiastic amateur radio ‘ham’ in the 1930s with the call sign G3CY. As an undergraduate he was a leading member of the Oxford University Wireless Society.
(call sign G3MM).


A.382 Call sign cards and other material found at front of Log book (A.381). From Acc 1183. 1948-1951

A.383 Letter from Senior Physics Master, Bradfield College, confirming Ryle’s suitability for a wireless transmitting licence; certificate of election to the Incorporated Radio Society of Great Britain, November 1936 From Acc 1128/2. 1936

A.384 Certificates of membership of the American Radio Relay League From Acc 788/58, Acc 788/60 and Acc 1128/2. 1938-1942

A.385 Radio Amateur Call Book Magazine. Winter 1938-1939 From Acc 788/60. 1938

A.386 Call sign cards From Acc 788/58 and Acc 1128/2. 1938, 1939, 1966

A.387 Commercial literature From Acc 788/60, Acc 1128/2. 1939, n.d.

A.388 Miscellaneous material 1938-1955
Includes badge from convention 1938, and 'Inventory of effects removed from Wireless Room, 5 Herschel Road to storage', May 1942.

From Acc 788/60, Acc 1125, and Acc 1128/2.

A.389 Glass photographic slide showing Ryle's radio transmitter  N.d.

From Acc 1128/2.


See also D.12.

From Acc 769/37, Acc 788/52, Acc 788/58, Acc 1200 and Acc 1183.

A.390 Hardback notebook  1959-1968

Used from the front for notes, chiefly reconstruction of experimental hydrofoil, from September 1959. At the back are notes on radio source work.

Some loose material intercalated.

From Acc 769/37.

A.391 'Avocet and Triton - two trimaran designs' by Martin Ryle and Anthony Ryle  1959

Avocet was designed by Ryle, Triton by his brother.

Typescript draft.

From Acc 1183.

A.392 'Avocet and Triton', Outriggers 1959  1959

This was publication number 29 of the Amateur Yacht Research Society. Avocet features on the cover.

Published version of A.391.

From Acc 788/45.
A.393 Update for members of the Amateur Yacht Research Society on progress with Avocet
Typescript draft.
From Acc 788/58.

A.394 'Martin's boats. Letter & articles and ideas'
Contents of envelope so inscribed by Lady Ryle: correspondence and notes chiefly re design and trials of Avocet.
From Acc 788/52.

A.395 Correspondence re sailing interests and boat design
From Acc 788/58 and Acc 1183

A.396 'Letters from Radhakrishnan sailing in Cygnus A 1964-66'
Contents of envelope so inscribed by Lady Ryle.
From Acc 1183.

A.397 'Some Trimaran plans'
Contents of envelope so inscribed by Lady Ryle.
From Acc 788/52.

A.398 Miscellaneous manuscript notes on boats
From Acc 788/52 and Acc 1183.

A.399-A.402 Background material
A.399-A.401 are Saunders-Roe Ltd reports on hydrofoil design.
4 folders.
From Acc 788/52 and Acc 1200.

A.403-A.405  Finance  1939-1976

A.403  Miscellaneous notes etc on finances  1939-1976
From Acc 788/60 and Acc 1200.

A.404  ‘Accounts’  1947-1949
Notebook used for household accounts 1947-1949.
First pages previously used for elementary music notes by ‘John Palmer’.
From Acc 1200.

A.405  Income tax material  1942-1954
From Acc 769/16, Acc 788/60

From Acc 788 (unlisted), Acc 788/49, Acc 788/58 and Acc 1127.

3 folders (chiefly work on 5 Herschel Road in 1946-1949) and 2 rolls (plan of part of 5 Herschel Road, A.409, and design of kitchen interior A.410).
5 Herschel Road was originally owned by Ryle’s father. In 1946 it was divided into flats. Ryle retained 5A.
From Acc 788 (unlisted), Acc 788/49, Acc 788/58 and Acc 1127.

A.411  ‘Rifle Range Inquiry May ‘83’  1983
Contents of envelope so inscribed by Lady Ryle: correspondence and papers re proposed housing development on site of Old Rifle Range, Grange Road.

From Acc 1127.

Documents re purchase, insurance, repair of motor cycles and cars.

3 folders.

From Acc 769/36, Acc 788/56, Acc 788/58, Acc 788/60, and Acc 1128/2.

A.415, A.416  HEALTH  1939-1944

From Acc 1127 and Acc 1183.

A.415  National Health & Pensions Insurance card 1939; Medical Card 1943  1939, 1943

From Acc 1183.

A.416  X-ray photographs of Ryle’s chest  1944
From Acc 1127.


From Acc 788/50, Acc 788/60 and Acc 1183.

A.417  Boy Scouts Membership Card  1931
From Acc 1183.
A.418  *Electrotechnics. Directions for the use of the Faraday Game-Box of Science Electrotechnics* by W. Le Gay  
N.d.  
From Acc 1183.

A.419  Character references for J.A. Ryle and Martin Ryle, December 1936  
1936  
Possibly for visit abroad.  
From Acc 1183.

A.420  Slide Rule  
N.d.  
Originally belonging to J.F. Miller.  
From Acc 788/60.

A.421  *Song of the Radio Group*  
1955  
Duplicated typescript. Two copies, each differently annotated by Ryle’s children.  
From Acc 1183.

A.422  *Knott’s Four Figure Mathematical Tables*  
N.d.  
Annotated ‘Radio Grp Cav. Lab’.  
From Acc 1183.

A.423  *Four Figure Tables*  
1961  
Annotated ‘The Astronomer Royal’s’.  
From Acc 1183.

A.424  Miscellaneous manuscript notes  
N.d.  
Includes ‘Unusual Bronze Age find’, ‘Ray Allen’s sighting of UFO’.  
From Acc 788/50 and Acc 788/60.
Ryle was recruited into the scientific war effort from the radio research team of the Cavendish Laboratory, Cambridge, which he had joined immediately after graduating from Oxford in 1939. During his time at the Telecommunications Research Establishment (TRE), he was concerned chiefly with radio counter-measures and deception.

From June 1942 he was leader of Group 5 of the TRE Radio Countermeasure (RCM) Division, whose task it was to provide jamming transmitters for German radar. To obtain information about changes German radar operators might be able to make to avoid jamming, parts of German radar sets were analyzed, such as those of a Würzburg radar station captured in the Bruneval raid in February 1942, 'Würzburg' being the British code name for the device prior to capture of the first identified operating unit.

Among other things Ryle’s war work involved him in the electronic simulation of a mock invasion, misleading the Germans into believing that the main D-Day invasion would be across the Straits of Dover. These efforts played a vital role in the success of the Normandy landings in June 1944.

<table>
<thead>
<tr>
<th>B.1-B.10</th>
<th>Royal Air Force Rough Notebooks</th>
<th>1940x1945</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 softback notebooks, not paginated, ‘for use in Laboratories and Workshops’.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From Acc 769/36.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| B.1 | Inscribed ‘M. Ryle’ on front cover |
| Used for notes on experiments re yagi antenna, etc. |

| B.2 | Used for notes and calculations, including an intercalated sheet dated 8/10/40 with a table re ‘50 cm C.H.L. Array’. |

| B.3 | Starts 30/7/41. Used from front and back for notes and drawings of ?circuit diagrams etc. |
B.4 Inscribed ‘KT 66’ and ‘807’ on front cover, drawing of circuit diagram on back.

Used for notes on ‘AIS Monitor MkII’, ‘AIS Monitor Type A’ and ‘Type B’.

B.5 Includes intercalated material re ‘Mk IV Receiver’ and notes re ‘Reinartz double loop’, ‘Artificial echo’, ‘Reversible Yagi’, ‘ASV Receiver’, ‘AI Receiver’ etc.

B.6 Includes diagram of plane showing location of equipment, notes and drawings re ‘Modulator’, ‘Junction Box’ etc. Also used from back.

B.7 Includes notes on ‘?Magnetron’

B.8 Used for notes, drawings and calculations

B.9 Used chiefly for drawings. Some intercalated material

B.10 Cover missing. Used chiefly for drawings (circuit diagrams etc.).

B.11 ‘Royal Air Force Navigator’s, Air Bomber’s and Air Gunner’s Flying Log Book’ 1943-1953

Hardback notebook (blue), inscribed ‘M. Ryle 1944-45’ on front cover. Notes inside back cover list types of aircraft.

Entries run from 12 December 1943 to 7 July 1945. In addition, Ryle continued to record flights thereafter, including to the 1953 meeting of the International Astronomical Union (IAU) in Rome, Italy.

From Acc 769/36.

B.12 ‘American British Laboratory of Radio Research Laboratory’ 1942x1945
Sample of stationary used at the Telecommunications Research Establishment.
From Acc 1183.

Handwritten account and transcript (posthumous). Also includes a photograph.
2 folders.
From Acc 1128/3 and Acc 1787.

B.15, B.16  Personal memories of the Normandy landings  n.d.
Handwritten accounts (one incomplete) of the anti-radar component of the Normandy landings. Also includes a transcript with annotations in ?Rowena Ryle’s hand. Further includes notes by Ryle re the Oxford physicist D.A. Jackson, who distinguished himself in air defence during the war years.
2 folders.
From Acc 788/53 and Acc 1787.

B.17  Timeline of the planning of the Normandy landings  n.d.
2 copies. Also includes correspondence with D. Fairhall (the defence correspondent of the Guardian) re the range of B17 and B24 bombers.
From Acc 1183.

B.18, B.19  Correspondence  1972, 1979-1981, 1984
Includes correspondence with Imperial War Museum and the Ministry of Defence re use for filming and transfer to museum facilities of historic radar equipment (including a Würzburg).
Ryle had acquired the equipment in question following a postwar visit to a German radar control centre in Denmark as a member of an assessment team. The captured equipment was offered to university research groups.
2 folders.
From Acc 788/61, Acc 1125 and Acc 1183.

B.20, B.21 Miscellaneous material n.d.
From Acc 769/36 and Acc 1125.

B.22 Printed material C 1938-1946
Includes: account of British propaganda during the First World War; Civil Defence leaflets on rationing and air raids; Ministry of Information account of the Battle of Britain; leaflets on war production and the battle of supplies; Advertising Service Guild bulletins on home propaganda and war production; Ministry of Information booklet, “Front Line” on the story of civil defence, 1940-41; leaflet on the Friends’ Ambulance Unit; statistics on the war effort; official account of the Battle of the Atlantic; biennial report of the Chief of Staff of the United States Army, 1943-45; leaflets on the work of the Middle East Supply Centre.
3 files
Following the end of the Second World War, Ryle returned to the Cavendish Laboratory, Cambridge, to resume his research on the ionosphere. However, he soon shifted his interest to investigations of radio waves emitted by heavenly bodies, setting up a radio astronomical research team.

In 1948 he became a lecturer in physics. He was subsequently Director of the Mullard Radio Astronomy Observatory (MRAO) 1957-1982 and Professor of Radio Astronomy 1959-1982.
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<td>C.93-C.102</td>
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<td>C.238-C.244</td>
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</tbody>
</table>
C.1-C.7  General material  1956-1974, n.d.

Contents of a folder.

From Acc 704 ‘RYLE 2’.


4 folders.

C.5-C.7  Miscellaneous  1956-1968


3 folders.
C.8-C.31  Governing Body meetings  1957-1980

Material relating to meetings of the Radio Astronomy Section Governing Body. Notebooks and loose material.

From Acc 1183.

C.8, C.9  Notebooks  1957-1962

C.8  ‘Governing Body Decisions’  1 October 1957-26 April 1960

So inscribed on front cover. Hardback notebook, green. Not paginated, with intercalated material at entry for 9 February 1959 and inside back cover. Used to record discussions about research problems and progress, instrument design, the Group’s publication schedule, lectures, administrative matters etc.

C.9  Red notebook  2 January 1960-8 March 1962

Hardback notebook. Not paginated, with intercalated material throughout and inside back cover. Used similarly to C.8. Intercalated material includes correspondence and detailed research notes.
Notes on Governing Body meetings


At C.17 is extensive manuscript notes, mostly undated. There is no material dating from 1978 and 1979.

22 folders.

Group meetings

Material (mostly typescript) relating to meetings of the Radio Astronomy Group. In chronological order. See also C.202-C.205, C.214, C.322-C.328.

From Acc 1183 unless stated otherwise.
Typescript ‘Note on the signal/noise ratio of different systems’ and ‘Radio stars and identification. A proposal’.


Undated material at C.38 includes ‘Analysis of low periodicity sections at the beginning and end of super synthesis’, ‘Suggested postgraduate lectures’, and manuscript notes (not by Ryle) on ‘RF amplifier system’.

6 folders.

EDSAC (Electronic Delay Storage Automatic Calculator) was the first practical stored-program electronic computer. It was built at the Cambridge Mathematical Laboratory and ran its first programme in May 1949.
Group meetings, 1963

Notes and memoranda including 'Notes on 178 Mc/s programme', 'Notes on HiFi', 'Polarization meeting', 'Meeting on source papers', 'Meeting on circuit boxes' (C.39), 'Notes on EDSAC programmes', 'Supersynthesis test, February 1963', 'Meeting on RF components' (C.40), 'Notes on 21 cm line receiver', 'Notes on electronic boxes', 'Possible use of D.C. classroom by radio astronomy', 'Notes on 38 Mc/s aerial' (C.41), 'Notes on 178 Mc/s programme', 'Notes on RF bits and pieces' (C.42), 'Notes on equipment including DSIR application' (C.43), 'Analysis of UK2', 'Meeting on RF bits and pieces', 'Re-equipping of workshop and replacement of electronic test equipment' (C.44), 'Meeting on aerial circuits', 'Brief notes on 178 Mc/s meeting', 'Notes on new aerial boxes' (C.45), '21 cm hydrogen line receiver', 'Notes on 178 Mc/s super synthesis', 'Notes on galactic programme', 'New programming work', 'low frequency programme', '178 programme' (C.46), 'Noise sources etc.', 'Lunar occultation', 'Data tapes', 'Notes on low noise amplifiers', 'Notes on low-frequency observations' and 'Notes on RF boxes' (C.47).

C.48 is undated material including 'Notes on new telescope installation', 'Lunar occultation programmes', 'Notes on optical identification work', 'Synthesis tests', 'Thoughts on quantized correlation receivers' and 'Arguments against Hoyle's new theory'.

10 folders.

Group meetings, 1964

Notes and memoranda, including 'Notes on 178 Mc/s', 'Notes on diameter measurement with a pencil beam system', 'Notes on sidelobe computations', note re D.W. Sciama's galactic model for the sources and 'Notes on 178 Mc/s T programme' (C.49), 'Notes on RF bits and pieces', 'Penticton radio telescope', and 'New aerial programming problems' (C.50), 'Discussion of 4C paper', 'Notes on programming', 'Rail clearance etc.', 'Notes on electronic boxes' and 'Jobs' (C.51), 'Discussion with
Havelock and Clephan', 'Notes on programming', 'Programming etc.', 'Discussion on radio sources' and 'Discussion on possible future programme' (C.52), 'Some thoughts on galactic polarization', 'RF heads', 'Occultation programme' and 'T programme' (C.53), 'Notes on future programmes', 'Notes on lunar occultation observations of the galactic centre region', 'Notes on RF components' and 'Two theoretical problems' (C.54).

6 folders.

C.55-C.62 Group meetings, 1965

Notes and memoranda, including 'Meeting [on] Log N Log S etc.', 'Optical identification', 'Notes on RF bits and pieces' and 'Progress report on Log N/Log S' (C.55), 'Discussion on 81.5 Mc/s programmes', 'RF bits and pieces' and 'Meeting of programming' (C.56), 'First draft [-telescope operators etc.]', 'Draft: maintenance of the telescope', 'Meeting on research students' and 'Notes on 178 future programmes' (C.57), 'New aerial programming', 'Hi-Fi records', '[On the problems in the theory of extragalactic radio sources]', 'Analysis of Hi-Fi runs', 'CTA 102' and 'Control tape numbering' (C.58), 'Notes on 178 Mc/s T programme', 'RF bits and pieces', '81.5 Mc/s aerials', 'Literature, etc. for Open Day', 'Notes on pointing accuracy' and 'The lease of Lord's Bridge' (C.59), 'Programming', 'Post-graduate lectures next year', '1407 parametric', 'Discussion on identification work', 'Notes on Christmas Lectures', 'Notes on RF bits and pieces' and 'Meeting on spectra' (C.60), 'Discussion on 81.5 Mc/s systems', 'Nature of the flat spectrum sources in 839', 'Missing components in grating synthesis maps' and 'Notes on JEB/JRS aerial, RF etc.' (C.61), 'Notes on programming', 'The half-mile telescope, 7.12.65', 'RF bits and pieces for JEB/JRS systems', 'The half-mile telescope, 13.12.65' and 'New aerial papers' (C.62).

8 folders.
Group meetings, 1966


3 folders.

C.D. Mackay was a research student.

Group meetings, 1967


C.75 is undated material, including ‘Grating programme - summer 1967’ and loose manuscript notes.

10 folders.

C.76-C.79 Group meetings, 1968


4 folders.

Includes material from Acc 769/15.
Group meetings, 1969

Notes and memoranda: ‘Supernova remnants-questions arising from a discussion on 4.3.69’, ‘Pulsar programme review’, ‘Maps from two-dimensional synthesis’ and ‘[Re 5 GHZ sources]’.

Group meetings, 1970


3 folders.

Group meetings, 1971

Notes and memoranda: ‘Radio astronomy research students meeting’ and ‘Meeting on the progress of RF
bits for the half and one mile telescopes'.

C.85  Group meetings, 1972  1972

Notes and memoranda: ‘Visitors to Lord's Bridge’, ‘Feed setting of aerial 1’, ‘5 km programme’ and ‘Extragalactic radio sources’.

C.86, C.87  Group meetings, 1973  1973

Notes and memoranda, including ‘Technical problems’, ‘5 km at 15 GHz’ and ‘Extragalactic radio sources’ (C.86), ‘5 km meeting’, ‘New receiver system for the 5 km telescope’ and ‘Forward look: the case for a radio astrometrical instrument’ (C.87).

2 folders.


Notes and memoranda, including ‘Summary: 33 calibrations June 73-Jan 74’, ‘SRC grants-capital expenditure’, ‘Bent components in radio galaxies’, ‘Meeting to discuss 5 Gc/s receivers for 5 km’ and ‘Extragalactic radio sources’ (C.88).

C.89 is undated notes, some manuscript. C.90 is a
manuscript draft ‘Composite structure of extra-galactic radio sources’.

3 folders.


Notes and memoranda, including ‘15 GHz reduction etc.’, ‘Decisions and jobs’ and ‘Further thoughts on JEB’s ideas to wreck the 5 km!’.


Notes and memoranda, including ‘1 cm meeting 13 June 1977’, ‘[Use of the 5 km control building]’ and ‘The replacement of the 5 km correlation by some digital horror’.

C.93-C.102  Future directions of radio astronomy  1965-1982

Typescripts, in chronological order.
From Acc 1183.

C.93  ‘Long term plans at Cambridge’  8 June 1965

Response to the Fleck Report on radio astronomy.

The Fleck Report was the report of the Radio Astronomy Planning Committee appointed by the Lord President of the Council under the chairmanship of Lord Fleck, 1961-1964. Its brief was ‘to consider and advise on the nature and extent of the participation of Her Majesty's Government in research in radio-astronomy; in particular to consider the programmes, facilities, funds and organisation required to support the United Kingdom interest in research in radio-astronomy both nationally and internationally.’

C.94  ‘Opportunity for participation in space flight investigations’  1969

Memorandum circulated by the Science Research Council (SRC), with a covering letter from A.C.B. Lovell.

The memorandum proposed to launch spacecraft with 30 foot diameter paraboloids attached. It originated in the US.

C.95  ‘Radio astronomy in Cambridge: the next 15 years’  1976

Typescript dated 4 November 1976. See also C.543,
Correspondence re the upcoming visit of the Panel on 29 November 1976.

The Panel had been set up by the Astronomy, Space and Radio Board of the SRC to look into the future of radio astronomy research in the UK.

Re a proposed UK millimetre-wave instrument

Typescript memorandum outlining Ryle’s position.

'MRAO manpower in millimetre-wave astronomy'

Typescript.

'Discussion paper: the microwave background telescope project'
Typescript.

C.100, C.101  'Future programme for the 5 km telescope and the microwave background proposals'  July 1982, n.d.

Typescript, outlining Ryle’s position. Includes an undated appendix ‘The microwave background telescope project’, by M. Birkinshaw and S.F. Gull.

2 folders.

C.102  ‘MERLIN and the one-mile telescope’  July-August 1982

Typescript, by Ryle. Also includes a memorandum ‘On the possible use of MERLIN with the OMT’.

2 folders.

MERLIN (Multi-Element Radio Linked Interferometer Network) was an array of radio telescopes distributed around Great Britain operated by the Jodrell Bank Observatory, Cheshire. ‘OMT’ refers to the Cambridge One-Mile Telescope.
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<th>Teaching</th>
<th>1946-1976</th>
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<td>Undergraduate teaching</td>
<td>?1949-1976</td>
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<td>C.103, C.104</td>
<td>'Introduction to radio astronomy'</td>
<td>?1949</td>
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<tr>
<td>C.105-C.116</td>
<td>'Radio astronomy'</td>
<td>1950-1958</td>
</tr>
</tbody>
</table>

Chiefly lecture notes. In chronological order.

Manuscript lecture notes, paginated.

2 folders.

From Acc 769/16.

From a folder inscribed 'Lectures notes for Pt II courses on radio astronomy, 1951-1957' and 'pages largely mixed up from year to year'. Manuscript lecture notes, in original order.

C.116 is exam questions 1951-1957 and n.d., some
typescript, some manuscript, some printed.

12 folders.

From Acc 769/14.

C.117 'Radio astronomy pt II (1965)' 1965

Manuscript lecture notes.

From Acc 769/15.

C.118-C.123 'Pt II ?instr[uments]' 1960x1970

Manuscript notes for 4 lectures on radio astronomical instruments, delivered in January 1970, followed by older notes (C.122, C.123).

6 folders.

From Acc 1183.
C.124  'Revised list of demonstrations'  November 1965

Typescript.

From Acc 769/10.

C.125-C.130  Pt II radio astronomy, 1970  1966, 1970

Manuscript notes for 3 lectures. Includes a set of exam questions for 1966 at C.130.

6 folders.

From Acc 1183.

C.131  'Introd. lect. 1976 Oct'  1976

Manuscript notes, so inscribed.

From Acc 1183.

From Acc 769/27 unless stated otherwise.

C.132-C.136  'Fundamentals of circuit design (postgraduate lectures 1947)'

So inscribed on attached sheet. Lecture notes, manuscript and paginated.

5 folders.

C.137-C.139  'Random fluctuations in electrical systems' and 'Jan-March 1949'

So inscribed on attached sheet. Further inscribed 'I - engineering noise, II physical noise - plasma osc., trochotron, Haeff, Malmsfors'. Lecture notes, manuscript and paginated.

3 folders.

C.140-C.143  'Introduction to radio astronomy'

So inscribed. With a note stating '1951 or early 1952 (~10
lectures), the astronomy one needs to know to interpret radio observations’ (authority unclear). Lecture notes, manuscript and paginated. C.143 is a separate script with the same title, undated.

4 folders.


From a folder inscribed ‘Postgraduate lecture notes ~1947-54’. Manuscript and paginated.

As follows: ‘General introduction small noise signals ...’ with typescript ‘Noise in gas discharges’ (C.144), ‘Circuit noise’ and ‘Physical and astrophysical noise’ (C.145), and ‘Random processes in physics and astrophysics’ (C.146). C.147-C.153 is a much annotated and nearly complete typescript of Ryle’s article on radio astronomy (1950) (see F.19-F.33), with notes for a lecture intercalated at C.152. C.154 is miscellaneous lecture notes.

11 folders.


So inscribed. Further inscribed ‘Post graduate lectures Jan 1954’. Lecture notes, manuscript and paginated. C.159 is an additional script, dated January 1955.
5 folders.

C.160-C.163  ‘Circuit lectures’  1956x1960

From a folder so inscribed. With a note ascribing a date range of 1956x1960 (authority unclear). Lecture notes, manuscript and paginated to 11.

4 folders.

C.164, C.165  ‘Elements of radio astronomy’  1967

Contents of a folder. Typescript overview of a course given by Ryle and colleagues. Manuscript notes.

The course was ‘intended to introduce new research students to current work at Cambridge’.

2 folders.

From Acc 769/15.

Contents of an envelope so inscribed. Manuscript lecture notes, paginated.

6 folders.

From Acc 769/23.

C.172 'Radio telescopes' n.d.

Further inscribed ‘Post graduate lecture’ and ‘following AH’ (Antony Hewish). Manuscript lecture notes, paginated.

From Acc 769/18.

C.173 'Design of radio telescopes' n.d.

So inscribed. Manuscript notes starting out ‘Continuation of Tony Hewish course - cover more practical problems of building R.T. for the actual jobs that want doing.’

From Acc 1183.

Notes for lectures given either to undergraduate or to postgraduate audiences.

C.174, C.175  ‘Series of 4 lectures at Cavendish’ and ‘1946-1947 academic year’  1946-1947

From a note so inscribed (uncertain authority).

2 folders.

From Acc 769/4.


So inscribed. Further inscribed ‘Nov. ’57’ and ‘discarded’, and ‘1959’ and ‘discarded’. Manuscript notes of lectures III + IV of an unidentified course.

2 folders.

From Acc 769/9.

Manuscript notes, with subsequent additions. Paginated.

2 folders.

From Acc 769/18.

C.180-C.182  ?Radio telescopes  post 1962


3 folders.

From Acc 1183.

C.183, C.184  Lectures VII to X  n.d.

Annotated typescript of lectures VII-X of an unidentified course, with each lecture paginated separately.

2 folders.
From Acc 769/18.

C.185, C.186  Miscellaneous  n.d.

3 sets of notes, manuscript.

2 folders.

From Acc 769/15.


Notes on lectures by colleagues. See also C.201, C.202-C.205.


From a blue softback notebook so inscribed, paginated, with dated entries. Used from one end to record J.A. Ratcliffe's lectures on Fourier analysis and correlation functions in diffraction and circuit theory, given in Lent term 1956. Used from the other end to record J.E. Baldwin's lectures on astronomy for radio astronomers, likewise given in Lent term 1956. C.188 is loose notes found intercalated at Ratcliffe end, described as 'Notes of lectures by Ratcliffe (~1953)' (authority uncertain). Further includes a set of Ratcliffe's lecture handouts (C.189-C.192).
6 folders.

From Acc 769/18 and Acc 769/23.

C.193 'Extra-galactic nebulae (J. Shakeshaft Lectures)' 1956

Faded blue softback notebook so inscribed, not paginated, with dated entries. Used from the front to record J. Shakeshaft's lectures on extragalactic nebulae, March-May 1956 (notes continued on loose sheets inside back cover and on inside of back cover). Used from the back to record seminars by R.L. Minkowski, R. v.d. R. Woolley and J. Oort, April-May 1956. Also intercalated is Ryle's note 'Survey programme', listing 13 tasks with some crossed off.

From Acc 769/13.

C.194 'Redman' and 'Structure of the galaxy' 1957

Manuscript notes of R.O. Redman's lectures in Lent 1957.

From Acc 769/18.
C.195 Light blue notebook I 1957-1959

Hardback notebook, not paginated, with dated entries. Used from one end to record an International Union of Radio Science discussion, followed by notes on lectures by J.E. Baldwin, A. Hewish, ?Ryle and J.R. Shakeshaft. Used from the other end for notes on P.A.G. Scheuer’s lecture on the model universe.

From Acc 769/11.

C.196 Green notebook 1959-1962

Hardback notebook, not paginated, with dated entries. Used from one end to record lectures by D.W. Dewhurst given in Lent 1959, Lent 1960 and July 1962. Used from the other end for notes on lectures by P.A.G. Scheuer on cosmology, Lent 1959, and a lecture by Davidson on radio observation and cosmology, given on 18 December 1961.

From Acc 769/11.

C.197 Dark blue notebook 1960-1972

From Acc 1183.

C.198  
Light blue notebook II  
1961

Hardback notebook, not paginated, with dated entries. Used from one end for extensive notes on F. Graham-Smith's lectures on 'Noise ?generators' etc., Michaelmas 1961. Used from the other end for notes on a seminar given by the Australian pioneer of radio astronomy J.L. Pawsey in October 1961.

From Acc 1183.

C.199, C.200  
Miscellaneous  
1976, n.d.

Manuscript notes of the following: 'Stan Evans pt II class 5-5-76', P.A.G. Scheuer on 'extended sources', 'Martyn' on the sun and (not in Ryle's hand) notes on radio star lectures, annotated by Ryle.

From Acc 1183.

C.201-C.215  
Colloquia and seminars  
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Years</th>
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<td>C.201-C.209</td>
<td>Notebooks</td>
<td>1955-1974</td>
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<tr>
<td>C.201</td>
<td>Notebook April-August 1955</td>
<td>1955</td>
</tr>
<tr>
<td></td>
<td>Black hardback notebook, not paginated. Used from back for notes of lectures and colloquia (including by F. Graham-Smith, F. Hoyle, and J.P. Wild). Used from front for notes on x-rays (undated).</td>
<td></td>
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<tr>
<td></td>
<td>From Acc 769/13.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hardback notebook, blue. Not paginated. Chiefly used from the back to record lectures and colloquia, 1965-1967. Used similarly from the front, March-April 1965. With extensive notes by Ryle and others found inside back cover and transferred to C.203-C.205.</td>
<td></td>
</tr>
</tbody>
</table>

See also C.197.
4 folders.

C.206 Notebook 1967-1971

Hardback notebook, blue. Not paginated. Used for notes on colloquia. Intercalated material inside back cover and throughout.

C.207 Notebook 1969-1971

Hardback notebook, blue. Not paginated. Used for notes on colloquia and lectures, including a symposium on 'Neutral H in nearby spiral galaxies', February 1971.

C.208 Notebook 1972

Hardback notebook, red. Not paginated. Used from both front and back to record colloquia and ?progress meetings?, August and October 1972. Only few pages used.

C.209 Notebook 1973-1974

Hardback notebook, red. Not paginated. Used from the
front for notes on colloquia and seminars. Notes inside back cover. Some intercalated material.


Further notes on Ryle’s colloquia can be found at G.11, G.34, G.37 and G.188.

From Acc 769/16, Acc 769/19 and Acc 1183.

C.210 Manuscript notes of ‘Pawsey, 24.9.54’ 1954

C.211 ‘Burke 18.8.55’ and ‘Heeschen 6.6.57’ 1955, 1957

C.212 Ryle’s colloquium ‘Programme of radio astronomy’, June 1959 1959

C.213 3 monochrome photographs of a presentation by the Soviet astronomer V.L. Ginzburg c. 1965

An inscription on the back of one of the images suggests that the colloquium took place soon after the Chagan nuclear test in January 1965.
C.214  Typescript ‘Notes on interstellar scintillation by QSOs, OH sources, etc.’, by P.A.G. Scheuer, 20 July 1970

C.215  Manuscript notes inscribed ‘Dungey’

C.216-C.222  Research students
From Acc 1183.

C.216-C.220  Correspondence and reports
Covers discussions about new research students, progress reports, placements etc. In chronological order.

5 folders.

C.220 closed until 2028.

C.221  Notes on research students, 1972-1974

1970

N.d.

1966-1980

1966-1980
Hardback notebook, red. Not paginated. Used for notes on research students, group meetings and colloquia. Intercalated material throughout (manuscript and typescript).

C.222 Isaac Newton studentship 1967-1977

Committee papers, reports on candidates, minutes.

C.223-C.233 Vacancies in radio astronomy 1962-1985

Correspondence re recruitments visits, upcoming positions, etc. In chronological order.

11 folders.

From Acc 1183.

C.234-C.237 Research grants 1964-1976

Correspondence and account statements, in chronological order.
4 folders.

From Acc 1183.

C.238-C.244 Miscellaneous 1954-1985, n.d.

From Acc 1183 unless stated otherwise.

C.238 'Incoherent notes on radio telescopes, government research, Lord Hailsham, etc.' n.d.

Typescript, with 'more libellous remarks ... given in brackets'.


Correspondence etc. Not indexed.

2 folders.

C.241, C.242 Correspondence re images and figures 1973-1985
Chiefly with publishers. In chronological order.

2 folders.

C.243, C.244  Various  1954, 1965

Includes Ryle’s notes from a literature review session.

The Cambridge Radio Astronomy Group met on Saturday mornings for literature review sessions.

2 folders.

Includes material from Acc 769/16.


Radio astronomical equipment was crucial for the work of the Cambridge radio astronomy research group. This was so not only in the trivial sense - that all science depends on instruments - but in the sense that members of the early radio astronomy group were intimately involved in
the design and creation of the equipment for surveying the radio sky. A wartime background in radio engineering at the Telecommunications Research Establishment proved immensely useful for some of the team.

The first radio observatory at Cambridge was the Grange Road Field Station. It used the Old Rifle Range of the local Officers Training Corps (OTC). In 1957 a new site opened at Lord’s Bridge, 5 miles south-west of Cambridge. It was named the Mullard Radio Astronomy Observatory (MRAO), after the electronics company Mullard Ltd that had provided funding for the facility.

From Acc 769/3 unless stated otherwise.

C.245, C.246  Site plans  1949, n.d.

2 plans of the rifle range on Grange Road, Cambridge, showing aerial enclosures.

2 folders.

C.247, C.248  Laboratory plans  1950, n.d.

2 sets of drawings, one by Ryle (undated), the other by F.G. Smith.

2 folders.


Circuit diagram of ‘Power unit Mk II’. Also includes copy of TRE technical note ‘An apparatus for the measurement of current noise in semi-conductors at audio frequencies’ (January 1952).

2 folders.

The TRE technical note is from Acc 769/16.
C.251 Proposal for increased land use 1951

Notes on a conversation re the future lease of the Old Rifle Range, typescript.

The conversation involved the commandant of the OTC and emissaries of the radio astronomy group.

C.252, C.253 Budgets n.d.

Various estimates for equipment, housing and ground security.

2 folders.

C.254 ‘Reports from observatories’ ?1954


From Acc 769/16.
C.255-C.298  Early Mullard Radio Astronomy Observatory (MRAO)  1954-1962

C.255-C.276  Creation of the MRAO  1954-1957

From a folder inscribed 'Mullard Radio Astronomy Observatory, Lords Bridge, 1954-1957'.

From Acc 769/7 unless stated otherwise.

C.255-C.257  Future of radio astronomy at Cambridge  1954

3 typescript memoranda ‘The requirements of radio astronomy at Cambridge’ (C.255), ‘Notes on the future of radio astronomy (August 1954)’ (C.256) and ‘Notes on move to new radio astronomy site (10.11.54)’ (C.257).

3 folders.

C.258-C.260  Siting of the new observatory  1954-1955
Includes manuscript notes and typescript report 'on the selection of a site for the extension of the Radio Astronomy Section of the Cavendish Laboratory' (C.258) and site plan of Weatherhill Heath near Icklingham in Suffolk (C.259) etc. Also includes copy of Guinness booklet *What will they think of next?*, a gift from the Earl of Iveagh, who owned part of the Heath.

Weatherhill Heath (referred to as Berner’s Heath in the site report) was selected as the most likely site among those inspected.

3 folders.

The Guinness booklet is from Acc 1200.

C.261-C.267 The Lord’s Bridge site 1954x1957

5 site plans, annotated (C.261-C.165). Also includes manuscript notes delegating various tasks ('Repair N fence (if we get it)') to members of Ryle’s team.

Further covers negotiations between the owner (the Air Ministry) and the farmer who held Lord’s Bridge under licence (C.267).

7 folders.

C.268 Radio Astronomy Building Committee 1956
Annotated committee papers (agendas and draft minutes).

C.269-C.276  MRAO Opening, 25 July 1957  1957

Includes guest list and biographical information re the Mullard representatives; typescript draft (annotated and used on back for draft correspondence and drawings) of Ryle's essay on the new observatory, published in *Nature* on 20 July; offprint; booklet and photographs from the ceremony (C.273); photograph of the celebratory dinner at Gonville and Caius College; and typescripts of toasts by Sir Edward Appleton and N.F. Mott. For further photographs, see also K.91-K.112.

8 folders.

Photographs of the opening ceremony from Acc 1200.


From a folder so inscribed (authority uncertain). Material re the construction of what was then called the ‘Radio Star Telescope’. In chronological order. See also J.168, J.281. For photographs, see also K.27-K.37.

The ‘Radio Star Telescope’ was also known as the ‘4C synthesis interferometer’ or ‘4C array’. It was used to conduct a celestial survey that revealed 5,000 radio sources, the Fourth Cambridge Survey (4C), which was published in two parts (1965 and 1967). The instrument
was the first telescope at the MRAO. It went into service in 1958 and has since been decommissioned.

From Acc 769/26 unless stated otherwise.

C.277 Overview of the firms involved in the construction of the telescope n.d.

Typescript, with note from the engineer D.R. MacKay.

C.278-C.280 Technical drawings 1955-1956

C.278 ‘Diagram of 60ft parabola with principal dimensions’ November 1955

Supplied by MacKay, with annotations in pencil.

From Acc 769/7.

C.279 ‘Longitudinal Section on Centre Line’ January 1956

Diagram detailing levels of rails for movable aerial. Supplied by Eagre Construction Co Ltd. Budget calculations in pencil on back.
C.280  
Circuit diagram  
September  
1956  

Supplied by D.R. MacKay.

C.281, C.282  
Notebooks  
1956-1958,  
n.d.  

C.281  
Notebook I  
1956-1957,  
n.d.  

Softback notebook, blue, not paginated. Used to record progress of building work and design modifications. Includes drawings. Intercalated material throughout and inside back cover.

C.282  
Notebook II  
1957-1958,  
n.d.  

Softback notebook, blue, not paginated. Used to record progress of building work, design modifications, instrument tests etc. Includes drawings and tables. Extensive intercalated material throughout and inside both front and back cover.

C.283, C.284  
Design notes, loose  
1956-1958,  
n.d.  

Not dated. Includes annotated typescript ‘Redesign of Radio Telescope Staying System’ and miscellaneous manuscript notes re moveable and fixed aerials. Also includes a plan of the MRAO showing positions of radio telescopes.

2 folders.


6 folders.

C.286-C.288 and C.291 are from Acc 769/7.


From Acc 769/18.

C.292  'F.G.S. Receiver design Feb 1957'  1957

Softback notebook, blue, not paginated. Used for notes on receiver design.
C.293  'Phase-switching receiver manual'  n.d.

Duplicated typescript with circuit diagrams of Phase Switch A, B.

C.294-C.298  Miscellaneous  1956-1962

Includes statement of DSIR payments April-June 1956; annotated typescript 'Methods of use of the new telescope'; correspondence re telescope materials, 1959-1960; and a typescript draft 'Final report on work carried out during the period 1st October 1961 to 30 September 1962…'.

5 folders.

From Acc 769/7, Acc 769/18-19 and Acc 1183.

C.299-C.333  One Mile Telescope  1960-1972

The One-Mile Telescope was the first telescope to use earth-rotation aperture synthesis (described by Ryle as 'super-synthesis'). It was an array consisting of 3
paraboloids, one of them movable. Design began in earnest in December 1959 but construction suffered a series of delays owing to a funding crisis at the DSIR. The first trial survey was made in April-June 1964.

For photographs, see K.38-K.44.

C.299-C.306 Marconi Proposal 1960-1961

From Acc 769/16 unless stated otherwise.

C.299 Correspondence re design 1960

Includes illustrations.

From Acc 1183.

C.300 Technical proposal January 1961

Copy of Marconi Wireless Telegraph Company Ltd, 'Technical proposal for aerial assemblies for synthetic aperture radio telescope', including set of technical drawings. In original cover.
C.301-C.305  Additional technical drawings  1961

Set of 5.

5 folders.

C.306  'Notes on Marconi’s Proposal'  1961

Typescript with annotations in pencil.

C.307  Model of the telescope  1962

Set of monochrome photographs: 1 of model of site layout (by the Ministry of Public Buildings and Works), 4 of the working model of the dish (by Blaw Knox).

The Blaw Knox company was a manufacturer of steel structures and construction equipment based in Pittsburgh, USA. The model of the One-Mile Telescope supplied by the firm went on show at the 1962 meeting of the British Association for the Advancement of Science in Manchester.

From Acc 1183.

1 monochrome photograph. Also includes plan of the MRAO, 1963.

From Acc 769/16 and Acc 1200.


Correspondence, chiefly with the Ministry of Public Building and Works (MPBW), the Science Research Council (SRC) and various suppliers.

From Acc 1183 unless stated otherwise.


Includes correspondence re percentage of completion of building work. Also re purchase of an ‘Optic seat harness’ to be attached ‘to the chair and oneself ... 40 ft above ground off a cat ladder’. Further includes a press release from British Insulated Callender’s Cables Ltd (BICC) announcing that they supplied ‘special radio frequency, power and multicore control cables for Professor Martin Ryle’s new Radio Telescope’.

C.310  1964  1964
Re outstanding works, overall accuracy of the installation, spares, Datex equipment etc.

C.311-C.314 1965

Re mal-operation of brakes, remedial engineering works on track and its earthworks, etc.

C.312 is specifically re problems with servo-motors from the Datex read-out equipment. C.313 is specifically re problems with pointing accuracy; includes graphs.

4 folders.

Includes material from Acc 769/15.

C.315 1966

Some problems with Datex continue, yet Ryle reports getting first-class results.

C.316 1967-1968

Includes correspondence from BICC welcoming the news that their cables were used for the 2 new dishes recently added to the MRAO (the reference is to the facility’s new
Half-Mile Telescope).

C.317-C.319 ‘SRC Cambridge Radio Telescope Project Committee’ 1965

Material re meetings of the Committee in 1965. Includes the 7th meeting on 7 May (C.317, C.318) and agenda of the 8th meeting on 26 October.

The parties represented on the Cambridge Radio Telescope Project Committee were Cambridge University, the Ministry of Public Building and Works (MPBW) and the SRC.

There is no material documenting the first 6 meetings, with the exception of correspondence at C.309-C.316. Of later meetings, only the MPBW monthly Financial Progress reports survive. These were circulated to Committee members (See C.320, C.321).

3 folders.

From Acc 1183.


Monthly financial progress reports issued by the MPBW. Incomplete set. Includes schedules of expenditure for SRC grant re maintenance of the new telescope and some correspondence.
C.322-C.328 One-Mile observing programme, routines, etc. 1969-1971, n.d.

From a folder inscribed ‘1-mile’. Typescript notes (for circulation in the group), notes of group meetings, etc. Some annotations. Also includes manuscript notes and draft papers (annotated typescript). In original order, as follows: 1969 (C.322-C.324) and 1970 (C.325-C.327). C.328 (1971) contains ‘One-mile telescope - thoughts on the future’ and ‘More thoughts about future of one mile telescope’. See also C.49-C.84.

7 folders.


2 items.

Graphs re paraboloid design, undated (C.331); typescript notes re the Argus-Titan data link that enabled two-way communication between the Laboratory's Titan Argus 304 computer and the Titan computer in the Mathematical Laboratory of the University (C.332); and basic maintenance (‘Ice patrol’, tree-planting around Lord’s Bridge etc.) (C.333).

C.332 includes a monochrome photograph of damaged cables.

3 folders.

From Acc 769/16, Acc 769/18 and Acc 1183.

C.334-C.459  Five Kilometre Telescope  1964-1980

The Five Kilometre Telescope (later ‘Ryle Telescope’) was a linear east-west array consisting of 8 equatorially mounted 13-m Cassegrain antennae. By March 1967 the layout was fixed and the instrument was built in 1971. Unlike the One Mile Telescope, the primary purpose of this instrument was not survey work but to provide information on the inner workings of sources. Accordingly, it was designed (to use P.A.G. Scheuer’s words) ‘to get the best possible angular resolution on individual sources’ (Scheuer, in The Early Years of Radio Astronomy, ed. W. T. Sullivan III (Cambridge 1984), p.
The instrument was decommissioned in June 2006.

For photographs, see K.45-K.49.

C.334-C.336  Siting of the instrument  1964-1967

C.334  ‘The problem of a site for future developments in radio astronomy at Cambridge’  18 June 1965

Duplicated typescript.

From Acc 1183.

C.335, C.336  Correspondence re siting  1964, 1966-1967

Includes a map of the MRAO surrounding development areas.

2 folders.

From Acc 769/18 (map) and Acc 1183.
C.337-C.407 Design, specification and operation of the instrument 1966-1973

C.337-C.345 Early proposals 1966-1967

C.337-C.342 Correspondence, May-December 1966 1966

Chiefly with Marconi Company Ltd, which produced a technical proposal for the projected telescope in September 1966 (see C.343), and with the Chief Engineer of the United Kingdom Atomic Energy Authority, who acted as agents for the design study. Also includes notes circulated in Ryle’s team.

6 folders.

From Acc 769/15 and Acc 1183.

C.343-C.345 Marconi proposal, September 1966 1966-1967

Slightly annotated copy of ‘Technical proposal for six aerial assemblies forming a radio telescope array with remote control and tell back facilities’, supplied by Marconi. Also includes technical drawing of tracker polar mount, 2nd issue (October 1966), and ‘Quotation for a radio telescope array system’, supplied by Marconi, January 1967.

3 items.
C.346-C.359  Meetings and correspondence, 1967  1967

Involving Marconi, the Engineering Group of the UKAEA and Ryle’s group. Chiefly re production of the design study. As follows: April to June (C.346-C.350), July-September (C.351-C.354), and October-December (C.355-C.359). Includes undated notes, in original order.

At C.352 is a draft of the UKAEA ‘Project design study brief’ (July). C.355-C.357 is another draft of the same (October) and cost estimate.

14 folders.

From Acc 769/15 and Acc 1183.

C.360-C.363  Meetings and correspondence, 1968  1968

Involving the UKAEA and Ryle’s group.

4 folders.

From Acc 1183.
C.364-C.395  Meetings and correspondence, 1969  1969

From Acc 1183.

C.364-C.374  Meetings of Ryle’s group  1969

From a folder inscribed ‘5 km (meetings)’. Minutes of meetings, memoranda and extensive manuscript notes. As follows: January-March (C.364-C.369), May-November (C.370-C.374).

11 folders.

C.375-C.388  Meetings and correspondence with Marconi and the UKAEA  1969, n.d.

From a folder inscribed ‘5 km (Marconi & AEA notes)’. Includes notes of ‘Progress meetings’, ‘Technical meetings’ and ‘Finance meetings’ with the UKAEA, and of meetings with representatives of Marconi. Also includes correspondence. As follows: draft and final version of ‘Preliminaries and specification for aerials and associated equipment’, by the UKAEA (C.375, C.376); January-March (C.377-C.379), May-June (C.380-C.383), July (C.384-C.386), August-September (C.387, C.388).

C.380, C.381 is notes of a meeting with Marconi.
14 folders.

C.389-C.395 Technical drawings 1969

7 technical drawings, supplied by Marconi.

C.396-C.407 Meetings and correspondence, 1970-1973 1970-

Notes of meetings, memoranda etc. As follows: 1970 (C.396, C.397), 1971 (C.398, C.399), 1972 (C.400-C.404), and 1973 (C.405-C.407).

From Acc 1183.

C.408-C.421 Correspondence with the Science Research Council 1966-1973

From Acc 1183.

C.408-C.413 Correspondence, 1966-1967 November

1966-July 1967

Covers arrangements for the design work undertaken by the University of Cambridge and for the design study to
be commissioned through the UKAEA, lodging of the planning application, lobbying of Sir Solly Zuckerman, clarification of the respective responsibilities of all parties involved, etc. Also includes correspondence with the SRC re the Swann report and university/industry relations.

C.408 includes an annotated typescript ‘The proposed new radio telescope’.

Zuckerman was the chief scientific adviser to the British government from 1964 to 1971. His involvement ensured support at a higher level than the SRC, which was deemed crucial in view of the project’s deadlines. These included an early 1968 starting date (to avoid conflict with other SRC-funded radio astronomical projects) and quick allocation of land on the Cambridge-Bedford line (to decrease the cost of land and possible compensation).

The Swann Report was the report of the Working Group on Manpower Parameters for Scientific Growth, chaired by M.M. Swann. Its brief was to discover ‘whether there was any imbalance in the employment of qualified engineering, technological and scientific manpower’. The Working Group presented its interim report in October 1966.

6 folders.

C.414-C.416 Correspondence with the SRC, 1968 January-October 1968

Covers extraction of a commitment to the main capital programme of the project

3 folders.
C.417  Correspondence with the SRC, 1969

Covers issues re rights to inventions, design, drawings and information pre-existing work on the telescope, arising from the construction programme, etc. Also includes minutes of the new ‘SRC 5 km Radio Telescope Project Committee’.

May-June 1969

C.418, C.419  Correspondence with the SRC, 1970

Includes drafts of the university’s Agreement with the SRC. Also includes minutes of a meeting of the ‘SRC 5 km Radio Telescope Project Committee’.

January-December 1970

C.420, C.421  Correspondence with the SRC, 1972-1973

C.420 includes copy of draft Agreement of January 1972.

1972-1973

2 folders.

C.422  Announcement of the telescope project  February 1969

Press cuttings (local and national). Includes a MRAO leaflet for the occasion.

From Acc 769/18.

C.423  Turning of the first sod  October 1969

Signatures from a ceremony on 22 October 1969, originally with photograph of Ryle digging (missing).

From Acc 769/19.

C.424-C.426  Opening of the telescope  1972

From a folder inscribed (in Rowena Ryle’s hand) ‘Martin’s original (hand-written) paper for the opening of the 5 kilometre telescope, Lord’s Bridge October 1972’.

Includes programme, guest list, facts and figures about the new instrument, drafts of Ryle’s presentation (at C.425), and typescript of Ryle’s article for *Nature* (published on 20 October).
The ceremony took place on 17 October.

3 folders.

From Acc 769/19.

C.427 Photographs n.d.

2 monochrome photographs, undated.

From Acc 1183.


Minutes and committee papers.

The MRAO Management Committee had its inaugural meeting on 12 February 1973. Its membership was nominated half by the University of Cambridge and half by the SRC, with the Chairman elected from among the members. The primary concern of this body was not the scientific programme of the facility, but its management.
From Acc 1183.

C.428-C.430 Meeting on 17 July 1973, Lord’s Bridge 1973

Papers for the second meeting of the Committee. Includes membership list, annotated agenda, minutes of inaugural meeting of the Committee on 12 February, copy of the Agreement between the University and the SRC, etc.

3 folders.

C.431-C.433 Meeting on 14 November 1973, Cavendish Laboratory 1973

Papers for the third meeting of the Committee.

Correspondence covers possible commercial development of radio astronomical surveying technique, evolved in order to accurately locate the paraboloids of the 5 km telescope as defined by the point of intersection of the two axes of rotation.

3 folders.
C.434-C.437  Meeting on 7 August 1974, Cavendish Laboratory

Papers for the fourth meeting of the Committee. Includes report of work at the MRAO during the period October 1973-September 1974, etc.

4 folders.

C.438-C.440  Subsequent meetings

Correspondence re amendments to minutes and reports of work at the MRAO during the period October 1977-September 1979.

3 folders.

C.441-C.450  Extension of the Five Kilometre Telescope

Material re a projected extension of the instrument by 4 aerials.

From Acc 1183.

C.441  ‘Design study for extension to 5km telescope’
Duplicated typescript. Also includes manuscript notes and calculations by Ryle and colleagues.

C.442  ['SRC] proposal for extending 5 km radio telescope’ January 1975

Typescript draft (annotated) and final version.

C.443-C.450  Notes and meetings, January-July 1975  1975

At C.446 is a memorandum summarizing tests undertaken since submission of the proposal and discussing their implications for the proposal.

8 folders.


In chronological order. Notes on group meetings and the observing programme, requests for observing time etc.

Includes overviews of all MRAO instruments and the respective observing programmes and corresponding theories on which work is expected to have an impact, 1972 (C.451); material re large-scale tropospheric irregularities, 1974 (C.453); draft presentation on the story of the 5 km telescope design, 1974 (C.454); comments on a proposal to create an intercontinental
array, 1975 (C.456); and Ryle's criticism of how his colleagues use the 5 km control building, ?1980 (C.459).

9 folders.


Correspondence, memoranda, notes etc., including testimony before adjudicating bodies. See also H.42, J.78, J.112, J.171, J.174 and J.183.

From Acc 1183 unless stated otherwise.


From a folder so inscribed. Typescripts and manuscript notes etc. Includes 'Interference with radio astronomical observations at Cambridge on 81.5 Mc/s' and 'Report on tests carried out to investigate the interference to radio astronomical observations at Cambridge, by one transmitter' (C.460); and table of 'Radio astronomy - frequency requirements [Cambridge and Jodrell Bank]' (C.462).

4 folders.
From Acc 769/23.

C.464-C.467  Correspondence and papers re frequency allocations, 1962-1971

Includes memoranda by F. Graham Smith, and list of frequency allocations for radio astronomy resulting from the 1971 World Administrative Radio Conference (WARC).

4 folders.

C.468  'Protection for the Mullard Radio Astronomy Observatory from radio interference' 1964

Duplicated typescript outlining 2 main types of interference, namely ‘transmission on well defined frequencies from transmitters associated with broadcasting, military users, mobile services and amateurs’ and ‘transmissions over a broad band of frequencies by such apparatus as electric arc welders, power lines and motor cars’.

Later versions of this statement can be found at C.470, C.471 and C.475.
Chiefly re a proposed apple storage facility in close proximity to the MRAO. Also covers broader implications (for farming in the area) of the conflict between radio astronomy and agriculture.

The possibility of an apple store being erected at a nearby farm came to the attention of Ryle and his colleagues in September 1964. Following tests with the type of electrical equipment that would be involved in the facility, they concluded that the probable level of interference would severely limit the operation of the observatory. There followed an appeal to the Postmaster General and a public inquiry into the planning application, with hearings starting in May 1966.

Includes material from Acc 769/15.

Includes press coverage at C.474 (from Acc 788/61).

7 folders.

2 folders.

Correspondence and memoranda, chiefly re problems arising from proposed Cambridge Western Bypass (M11 Motorway). Also covers interference from new FM radar devices for vehicle navigation/collision warning.


4 folders.

C.482-C.487  1972  1972

Includes evidence submitted by Ryle and others, including his colleague J.E. Baldwin.

An enquiry concerning the relevant section of the proposed bypass opened in February 1972. Baldwin gave evidence re a suitable screen to protect the observatory from existing types of radio equipment used on motorways.

6 folders.

C.489 is a map of the proposed route of the M11. C.490 is a draft ‘Interference to radio astronomy from vehicle anti-collision radio systems’ (annotated typescript).

3 folders.

Map from Acc 769/15.


Correspondence and memoranda re interception from devices used in military aviation, frequency bands used in civil aviation, etc.


C.492-C.495  1969  1969

Includes material re proposed ‘third London airport’. C.493 is Ryle’s 24pp testimony, C.494 is ‘Examples of interference at Lord’s Bridge’ and ‘Comparison between the problems of interference at Lord’s Bridge and at Jodrell Bank’, C.495 is ‘Consideration of alternative sites for radio astronomy in East Anglia’.
4 folders.

C.496, C.497  1972

Memorandum ‘The technical problems of providing protection for the observatory at Lord’s Bridge from airport radio systems’, with appendices.

2 folders.


Correspondence with the SRC re proposed increase of traffic for Stansted airport. Also includes an undated map of ‘South West landings and takeoffs’.

2 folders.

C.500-C.502  Miscellaneous  1960-1974

Includes correspondence re interference filters and re the development of radio frequency heating and microwave heaters. Also includes an exchange with a representative of the Civic Cambridge Society re how residential or industrial development around the observatory would affect radio astronomical research.
3 folders.

From Acc 1183.

C.503-C.516  Visits to the MRAO  ?1958-1977

In chronological order.

From Acc 1183 unless stated otherwise.

C.503  'Jodrell visit'  ?1958

From manuscript notes (including an account of current research of the Cambridge Radio Astronomy Group) so headed.

From Acc 769/8.

C.504-C.508  'Visit of European editors to Mullard Radio Astronomy Observatory ... March 11th, 1964'  1963x1964
From an envelope so printed. Correspondence and papers including final programme, press pack (including promotional photographs of the MRAO and of Ryle, with original envelope), and manuscript draft of Ryle's presentation.

5 folders.

C.509, C.510

'Visit of the Lord Bowden to the Mullard Radio Astronomy Observatory, Cambridge, July 6th 1965'

Duplicated typescript of Ryle's talk to members of the press on the occasion. Includes 2 appendices, 'Technical details of the new SRC radio telescope' and 'Highlights of radio astronomical research at Cambridge and papers published since 1963'.

Also includes a press clipping (from Acc 788/61).

2 folders.

C.511


From an envelope so inscribed (by Rowena Ryle). Press clipping from the Cambridge Evening News and 1 monochrome photograph of the visitors with Ryle.

Visit of a party of scientific editors from the USSR, who
spent 2 weeks in the UK as guests of the Foreign Office.

From Acc 788/61.

C.512 'YERAC 23-7-73'

From manuscript notes so headed.

The occasion was the 6th Young European Radio Astronomers Conference (YERAC), which was held in Cambridge.

C.513 Visit of the King of Sweden, 12 July 1975

The visit was made following the award of the Nobel prize to Ryle and Hewish in 1974.

Correspondence, itineraries, notes on arrangements. See also A.316.

C.514, C.515 'Duke of Edinburgh - visit to Lord’s Bridge November [19]77'

From an envelope so inscribed. Correspondence and 9
colour photographs from the occasion.

A second envelope bore the inscription ‘Duke of Edinburgh’s visit to see Martin’s windmill ?1982/3 (M. away ill)’. Neither the correspondence here nor the images suggest that the visit was to the wind turbine Ryle built with his assistants, or that the visit depicted in the photographs took place in the early 1980s.

2 folders.

From Acc 769/38 and Acc 1183.

C.516  Miscellaneous  1966-1975

Correspondence re visits.

C.517-C.519  Lord's Bridge humour  1955-1970

C.517  Song of the Radio Group  5 November 1955

Words of a song in celebration of Mullard Ltd donating £100,000 towards the creation of the MRAO. To be sung ‘to the tune of Rio Grande’. 
From Acc 788/61.

C.518  

‘Supersynthesis for the very young, or, Martinlocks and the three dishes’  

Story of the MRAO instruments, by Donald Wilson. Typescript, in original folder.

From Acc 1125.

C.519  

Cartoons  

1962, 1970  

2 pieces.

From Acc 788/61 and Acc 1183.

C.520-C.528  

Promotion of the MRAO  


C.520, C.521  

‘Radio astronomy at Cambridge’  

1954

Manuscript draft and annotated typescript, and annotated proofs of article for Cambridge Review.
2 folders.

From Acc 769/16 and Acc 1125.

C.522 MRAO fliers 1964-1974

3 items, one a draft copy with a covering note (?1964). The second (?1972) is inscribed.

From Acc 1183 and Acc 1787.

C.523 Correspondence with the media 1966-1974

Chiefly re television programmes featuring the observatory and/or Ryle. Includes correspondence with editor of the Observer re the misrepresentation of MRAO equipment.

The article in the Observer had hinted that MRAO antennae could be used for spying.

From Acc 1183.


5 folders. From Acc 788/61.

C.529 Miscellaneous correspondence 1965-1967

In chronological order. Includes correspondence with engineer D.R. MacKay re a projected visit of his to inspect North American telescopes. From Acc 1183.


From Acc 1183 unless stated otherwise.


In chronological order.

C.530 ‘The Cavendish Laboratory’ ?1952

Typescript. Covers history of the Laboratory from its beginnings to the death of Ernest Rutherford (Director of the Cavendish 1919-1937).

From Acc 769/16.

C.530A Flier for Cavendish Laboratory open day 1951
Acc 1787

C.531 Staff directory ?1971
Includes list of research students and visitors.

C.532 'Notes for new research students’ n.d.
Typescript elucidating ‘Sod’s Law’. Also includes list of ‘Sayings of the great’.

C.533 Lecture list, Lent 1967 1967

C.534 Current research in the Department of Physics n.d.
Pamphlet.

In chronological order.

Typescript memoranda re reform of the Tripos.

3 folders.

Includes material from Acc 769/2.

C.538  ‘Pt II crystallography’  1964

Typescript.

C.539  ‘Purpose of PhD course’  ?1972

Manuscript draft, by Ryle.

C.540  ‘Part II major option in astrophysics’  1977

Duplicated typescript, annotated.
C.541  'The future of the Cavendish electronics course'  n.d.

Typescript circular.

C.542, C.543  The future of the radio astronomy group  n.d., 1976

Manuscript draft. Found with typescript 'Radio astronomy in Cambridge: the next 15 years' (see C.95).

2 folders.

C.544-C.547  Departmental circulars and memoranda  1959-?1976

In chronological order.

4 folders.
C.548  ‘Report on the First Year Practicals’  1967

Typescript report of the SRC Physics Faculty Sub-Committee.

C.549-C.585  UNIVERSITY GENERAL  1948-1977

C.549-C.567  M.B. Lecturing and Examining  1948-1949

In 1949, Ryle taught and acted as examiner for the University’s Bachelor of Medicine degree.

From Acc 769/27.

C.549-C.558  Lecture notes  1948x1949

C.549-C.554  ‘Electricity & Magnetism’ and ‘1st M.B. Lectures’  1948x1949

From an envelope so inscribed. Manuscript lecture notes,
paginated. 94pp.

6 folders.

C.555-C.558 '1st M.B. Physics (Light)'

From an envelope so inscribed. Manuscript lecture notes, paginated. 63pp.

4 folders.

C.559-C.567 'M.B. Examiner 1949'

From a folder so inscribed. Includes letter of appointment, exam questions and mark sheets of examinations June-December 1949.

9 folders.

C.568-C.570 Syllabus for Combining Science and Arts

Typescript memoranda. See also G.57.
3 folders.

From Acc 1183.

C.571-C.579 Astronomy in the University 1957-1972

From Acc 1183 unless stated otherwise.

C.571-C.575 Papers of the Observatories Syndicate 1957-1966

Ryle was appointed to serve on the Observatories Syndicate for four years, starting on 1 January 1957 (see J.211).

5 folders.

Includes material from Acc 769/15.


Papers of the Astronomy Working Party advising the School of the Physical Sciences re the amalgamation of the Cambridge University Observatory (established in 1823), the Solar Physics Observatory (1912) and the
Institute of Theoretical Astronomy (1967).

The Institute of Astronomy came into being in 1972.

3 folders.

C.579  Resignation of Sir Fred Hoyle from the Plumian Chair  1972

Correspondence and press coverage.

C.580-C.584  Chair of Navigation  1974-1977

Correspondence and papers re establishment of Francis Chichester Professorship in Navigation.

5 folders.

From Acc 1183.

C.585  Board of Extra-mural Studies  1968, 1974

Correspondence, announcement of lecture series on
'Modern astronomy'.

Includes material from Acc 1128/1.
SECTION D  
RESEARCH, D.1-D.461  


D.1-D.295  
ASTRONOMICAL RESEARCH  

D.296-D.448  
WINDPOWER RESEARCH  

D.449-D.461  
TIDEPower RESEARCH  

D.1-D.295  
ASTRONOMICAL RESEARCH  


Data readings from the 1950s are at K.180-K.201.

D.1-D.26A  
Notebooks  

D.27-D.295  
Notes and data  

D.1-D.26A  
Notebooks  


The contents of the notebooks are diverse. In addition to research notes and data, bibliographical references and so on, the notebooks may contain notes on conference papers and lectures heard, as well as miscellaneous and unidentifiable jottings. Some notebooks include intercalated material.

Items D.3-D.6 were accompanied by notes with information on the content, authority unclear, and contain the work of Ryle’s colleague K.E. Machin.

Further notebooks were found within research folders and have been retained where found, see D.28, D.58, D.110, D.111, D.160 and D.271.

At A.390 is a notebook principally used by Ryle for hydrofoil design but including astronomical observations at rear.

D.1  
Softback pocket notebook  

1946

Used from the beginning for notes on bandwidth and on
?lectures by E. Orewan and R.A. Smith. Also used in the middle (including notes on Andromeda) and from the back.

From Acc 769/37.

D.2 Softback pocket notebook inscribed ‘45’ on front cover. 1947-1950

On first page is ‘45’ Beying an authenticke and compendious recorde of...ye C.R.P. set on ye frequentie of XLIV [sic] megga-cycles per seconde’. Record of the commissioning etc of the Long Michelson interferometer built by Ryle and coworkers.

From Acc 769/37.

D.3 Hardback notebook inscribed on front cover ‘Summary of Sun’ and on back cover ‘Correlation’ June 1950-August 1951

Used from the front for notes on calculations of solar data by K.E. Machin and at the back for autocorrelations of solar data by Machin.

Loose graphs at front.

From Acc 769/20.

D.4 Hardback notebook inscribed on front cover ‘Fourier & Eclipse’ August 1950-September 1951

Used for notes on observations and calculations of solar data from 80 Mc/s variable spacing interferometer, by K.E. Machin; observations of eclipse 1 September 1951.

Includes material stapled to pages of the notebook.

From Acc 769/20.

D.5 Hardback notebook inscribed on front cover ‘K.E. Machin. Sun Transits’ June 1950, January-September 1951

Used for calibration using the Sun of various interferometers including 2 x Würzburgs.

Loose material at back, one pages dated June 1950.

From Acc 769/20.
D.6 Hardback notebook

Used for data on the transit of the Sun.

Loose material at back.

From Acc 769/20.

February-June 1951

D.7 Hardback notebook

Used from the front chiefly for working on ideas, including notes on ‘Future aerials’ in which Ryle discusses methods of finding ‘radio stars’ of smaller intensity and on design of new radio telescopes. Used at the back for notes 1954.

Loose material intercalated, including pocket notebook (presented at D.8).

Entries from this notebook for 8 and 29 June 1954 are referred to by Ryle in his Nobel Prize lecture of 1974 (see A.287).


From Acc 1183.

November 1953-July 1956

D.8 Softback pocket notebook found within D.7, inscribed on front cover ‘Cable Book’

Used from the front for notes on cables March 1955-March 1956, and from the back for notes July 1956-November 1957.

From Acc 1183.

March 1955-November 1957

D.9 Pocket notebook (lacks covers)

Used for notes on conference proceedings and research notes.

From Acc 769/37.

1953
D.10  Spiral bound pocket notebook  1953, 1957
Used for notes on conference proceedings in USA, visit to USA and research notes on aerial design etc.

From Acc 769/37.

D.11  Spiral bound pocket notebook  ca 1956
Used from the front and from the back for miscellaneous notes.

From Acc 769/37

D.12  Pocket notebook  1957-1960
Used at the front for notes on 4C aerial adjustments 1957, and from back for rough draft of 1958 Bakerian lecture, notes 1958-1960 and note on trimaran design.

From Acc 769/13.

D.13  Pocket notebook (lacks covers)  July-August 1957
From Acc 769/37

D.14  Hardback notebook inscribed ‘Future programmes etc’ on front cover  1957-1961
Used for ideas and calculations on developments in radioastronomy.


From Acc 769/37.

D.15  Spiral bound pocket notebook  1960, n.d.
Used for notes on conference proceedings and research notes.

From Acc 1128/1.
D.16 Spiral bound reporter’s notebook ca 1961
From Acc 1183.

D.17 Spiral bound pocket notebook inscribed ‘1961 Santa Barbara + Berkeley [IAU]’ on front cover August 1961
Notes made by Ryle during visit to the USA. See H.277.
From Acc 769/37.

Penticton, British Columbia, Canada, was the site of the Dominion Radio Astrophysical Observatory.
Notes made by Ryle during his period at the observatory and later research notes.
From Acc 769/37.

D.19 Spiral bound pocket notebook July-September 1962
Includes from the front rough notes for ?lecture and notes on lecture of W.H. McCrea. Also used at the back.
From Acc 769/17.

D.20 Spiral bound reporter’s notebook ca 1965
Used for notes on ?discussion on radio telescope design.
From Acc 769/37.

D.21 Softback pocket notebook ca 1971
From Acc 769/37.

D.22 Softback pocket notebook ca 1971
Inscription on cover crossed out.
Most pages not used.
From Acc 769/37.

D.23  Softback pocket notebook  ca 1971
Used at the front and at the back. Most pages not used.
From Acc 769/37

Much intercalated material including letter from Patrick Moore re 20th anniversary programme of BBC TV The Sky at Night asking Ryle's views on changes in astronomy 1957 to 1977, annotated by Ryle, and 2pp typescript of vote of thanks to Chancellor of Strathclyde University at Honorary Degree presentation, 1968 (see A.218).
From Acc 1183.

D.25  Softback pocket notebook  September 1974-January 1975
From Acc 1183.

D.26  Hardback notebook  September-October 1974, 1976
Used for 3C data.
Includes intercalated material, some data dated 1976.
From Acc 1183.

D.26A  Hardback notebook  N.d.
Used for 3C data. Only a few pages used.
From Acc 1183.

This is principally the contents of folders of Ryle’s research notes, data, calculations, jottings and ideas, though there may also be letters, offprints, etc. Much of the material is very difficult to identify or to date. Ryle frequently reused the backs of pages of drafts, letters and earlier notes.

Some folders and individual documents were annotated by notes with information on the content, authority unclear.

D.27, D.28
‘First postwar research ideas’

Contents of folder so inscribed divided into two for ease of reference: principally manuscript notes, some on backs of envelopes. Also includes annotated typescript ‘Notes on radio research programme 6 May 1945’ letter informing Ryle of his promotion to acting Senior Scientific Officer, 25 May 1945.

D.28 is spiral bound pocket notebook found in the folder used from the front and at the back. Most pages not used.

From Acc 769/9.

D.29
Cosmic noise


From Acc 1125.

D.30-D.39
‘Solar observations & theory’

Contents of folder so inscribed: principally manuscript and typescript drafts by Ryle.

From Acc 769/9.

D.30
‘Increase of radio frequency radiation from the sun during sun spot activity’, typescript, 16 February 1946; ‘Radio frequency radiations from the sun’, typescript, 20 March 1947

D.31
‘Solar radiation on 175 Mc/s’ with D.D. Vonberg (Nature, vol 158 (1946), 339), duplicated typescript, with offprint of
subsequent note in *Nature* by Ryle and Vonberg, 1947; typescript drafts on design of Radio Frequency Unit.

D.32 Correspondence and papers re proposed observations of total solar eclipse, November 1948 1947-1948

D.33 Remarks on ‘Solar radio-frequency radiation’ by J.L. Pawsey, paper to Institution of Electrical Engineers, 7 December 1948, 1949

Includes revised copy of Pawsey’s paper, 1949.

D.34 Manuscript drafts on ‘The absorption of radio waves in the solar atmosphere’ and ‘Scattering of radio waves in the solar envelope’ and ‘The electron temperature in the solar envelope’ ca 1950-1951

D.35 Correspondence and papers re ‘The distribution of radiation across the solar disk at 85 Mc/s’ by K.E. Machin 1950-1951

Published in *Nature* vol 167 (1951), 889-891.

D.36 ‘Some investigations of the solar corona by radio methods’ by Ryle, duplicated typescript with manuscript corrections; ‘The structure of the outermost layers of the solar corona’, manuscript note. ca 1952

D.37 ‘An instrumental development in radio astronomy’ by R.N. Bracewell, duplicated typescript + figure 1950

The paper, published in *The Observatory*, reports on developments at the CSIRO Radiophysics Laboratory, Sydney, Australia.

D.38 Miscellaneous notes, graphs and data ca 1946-1952

D.39 Photographs 1946, 1947

Photograph inscribed on verso ‘Work of art based on Ryle and Vonberg (1946) solar fringes’; two photographs dated
March 1947 from Mount Wilson Observatory, Pasadena, California, USA.

D.40-D.49 ‘Scientific notes & programmes’

Contents of folder so inscribed.

From Acc 769/3.

D.40 ‘Notes on the origin of extra-terrestrial noise 9th April 1946’, typescript; ‘Summary of Covington’s work on 2800 MC/S (10.7 cm) noise’, typescript; manuscript notes

D.41 ‘Radio Optics (JAR)’

Manuscript notes by Ryle on course by J.A. Ratcliffe.

D.42 ‘Proposed extension of radio astronomy programme’

Manuscript and typescript drafts. Also includes ‘Revised estimate of grant needed for one year of radio astronomy programme’.

The grant proposed the construction of new stellar aerials and associated equipment.

D.43 Manuscript notes

Clipped to the notes was later note, ‘Appear to be ca 1948-49, Ryle’s notes for Admiralty advisory committee re underwater detection of submarines, which led him to think of the phase-switch scheme’.

D.44 ‘Notes on future aerials for stellar observations’ and ‘Solar noise programme’ typescript; manuscript notes

D.45 Typescript notes on application for grant for work on radio astronomy

References are made to the DSIR grant for September 1949-September 1952 and proposed additional grant funding.

D.47  ‘Radiations from the sun and stars’ by F. Graham Smith, typescript + figures  August 1948

D.48  ‘Plasma-electron oscillations’ by T.R. Neill and K.G. Emeléus, typescript + figures.  ca 1949

D.49  Miscellaneous notes and data  ca 1948-1951


From Acc 1128/1.

D.50  Includes Ryle’s manuscript ‘Brief account of work we have done at Cambridge’

D.51  Figures.

D.52, D.53  Miscellaneous drafts, notes and figures  ca 1946-1955

From Acc 769/16.

D.52  Includes ‘A rate-aided D.R. compass’

D.53  Includes ‘The scattering of rays in the solar corona’, typescript.


Contents of folder so inscribed: miscellaneous manuscript and typescript notes.

From Acc 769/24.
D.54 Includes notes on ?discussions with H.O.G. Alfven on trokotron [trochotron] design, 11 July 1947, draft letters to P.M.S. Blackett, ca 1948, notes on stellar magnetic fields, n.d.

D.55 Includes manuscript notes on ‘Discussion with Prof. Alfven 21.9.48’ on the trochotron and notes headed ‘Prof [H.] Zanstra’ on the solar corona.

D.56-D.72 Contents of untitled folder From Acc 769/6.

D.56 ‘An account of recently published work on solar noise’, manuscript 1947

D.57 ‘The detection of a small signal originating from a point source against a large background signal of diffuse origin’, typescript 1947

D.58 Softback pocket notebook inscribed ’81.5’ on front cover Used for notes on aerial developments and observations with the Long Michelson interferometer. Loose material intercalated. August 1949-August 1950

D.59 Miscellaneous typescript and manuscript notes 1947-1949

D.60 ‘Notes on radio astronomy programme. May 1950’, typescript and manuscript notes; manuscript notes on possible 45 Mc/s experiments. 1950

D.61 Miscellaneous manuscript notes on the nature of radio stars, solar corona, etc 1951

D.62 Diary (1950-1951) ca 1951
Used from the back for notes and calculations.

There are a few diary entries.

D.63  Miscellaneous notes, correspondence and papers  1951

Includes ‘Plasma waves in thermal equilibrium’ and ‘Additions’ by D. Gabor, March; copy of letter from J.H. Oort, 2 May with typescript translation of work by H.C. van de Hulst on estimating radiation from the universe, first sent to R. Hanbury Brown; undated draft of letter to Oort; ‘Suggested theoretical problems in radio astronomy which might be considered at Cambridge, 10 August 1951’

D.64  Duplicated typescript draft script for BBC radio broadcast from the Cavendish Laboratory, 7 August; ‘Notes on the identification of ten bright radio sources’ by Ryle, F. Graham Smith and D.W. Dewhirst, typescript, 13 October 1952; ‘Note for ‘Proceedings of Observatories’ ’ on current work’, typescript  1952

D.65  ‘Report on British work in radio astronomy for Commission V at the Xth General Assembly of URUI’  1952

See also H.381, H.382.

D.66-D.72  Miscellaneous notes, graphs, figures and data  1951-1954 and n.d.

6 folders and 1 roll (D.72).

At D.71 is photograph of ‘Radio sources in Cassiopeia’.

D.73-D.81  ‘Scientific notes & calculations’  1948-1950

Contents of folder so inscribed.

From Acc 769/3.

D.73  ‘BBC report on radio propagation conditions’ for May and June 1949, typescript; ‘Standard symbols for record chart marking’, typescript; manuscript draft on sources of galactic radiation  ca 1948-1949

The manuscript draft may be an early version of a letter to Nature.
D.74  Data on Cygnus fluctuations  1948-1949

D.75  Data on Cygnus and Cassiopeia, with typescript extract from letter, ca 1949, from 'CLS' at Cornell University, asking that Ryle send information on his observations on Cygnus A and Cassiopeia A.  1949

D.76  Miscellaneous notes and data  1950

Includes notes from visit to Paris 1950, annotated 'Bolton'

D.77  Incomplete typescript draft of *Rept Prog Phys* vol 13 (1950), with figures  ca 1949

D.78  Typescript draft of 'Galactic radiation at radio frequencies. II. Galactic structure' by J.G. Bolton and K.C. Westfold

Published in *AJSR* vol A3 (1950), as paper III in the series

D.79-D.81  Miscellaneous notes, graphs, figures and data  ca 1948-1950

3 folders.

D.82-D.87  'Receivers + Aerials'  1948-1952

Contents of folder so inscribed divided into six for ease of reference: notes, printed material and plans.

Includes blueprints of Phase-switch unit and Cosmic Ray Pyrometer Mark II Follower Unit (D.82-D.84).

From Acc 769/24.

D.88-D.98  'Misc. notes, reports'  1945-1950

Contents of folder so inscribed: chiefly typescript, duplicated typescript and printed material.

From Acc 769/24.
D.88 'The theory of space-charge wave amplification' by G.C. Macfarlane  

With manuscript notes found therewith.

Telecommunications Research Establishment memorandum no. 48.

D.89 'Solar noise observations, 10.7 centimeters' by A.E. Covington, typescript + tables and figures

D.90 'On the origin of the cosmic radiation' by E. Fermi, typescript

D.91 'Theory of a two-beam electron-wave tube' by A.M. Woodward

Telecommunications Research Establishment memorandum no. 83.

D.92 'Characteristics of the variable components of solar radiation at metre wave-lengths' by R. Payne-Scott, typescript

D.93 'A note on the error of a duty cycle type multiple for analogue computers' by T.W.R. East

'Group note N1'

D.94 'A survey of the present state of the theory of plasma oscillations and electron interaction' by D. Gabor, duplicated typescript

With manuscript notes found therewith.

D.95 Miscellaneous manuscript notes 1949-1950

D.96-D.98 Miscellaneous printed etc material 1945-1949

3 folders.
D.99-D.107  
'Bibliographies + Notes on articles'
Contents of folder so inscribed.
From Acc 769/25.

1948-1951

D.99-D.101  
Radio Astronomy bibliographies, School of Electrical Engineering, Cornell University, New York, USA
3 folders.

1948-1950

D.102-D.104  
Abstracts
Duplicated typescript abstracts of recent articles on "Propagation", "Ionosphere", "Physics of the Universe", Solar noise" etc, compiled for internal use by members of the department, including Ryle.
3 folders.

1949

D.105
Miscellaneous manuscript and typescript references and bibliographical notes and lists

1949-1950

D.106  
'Abstracts of published papers on radio research in Australia 1948-1950' compiled by Australian National Committee on Radio Science
Bound volume.

1950

D.107  
'A bibliography of the thermodynamics of electron streams and of ionized media' compiled at Imperial College London
Duplicated typescript.

1951

D.108-D.113  
'Aerial designs'
Contents of folder so inscribed.
From Acc 769/2.

1949-1953

D.108  
Correspondence from the Telegraph Construction & Maintenance Company re cabling for the Cambridge Interferometer

1949-1950
Includes blueprint.

D.109 Miscellaneous manuscript notes, calculations and diagrams ca 1950

D.110 Softback exercise book inscribed 'New Aerial' on front cover 1951-1953

Used for notes on construction and testing of Cambridge Interferometer for the Second Cambridge Catalogue (2C).

Intercalated material includes photograph of equipment, April 1951.

D.111 Softback Royal Air Force exercise book ca 1951

Used for various notes, including antennae design.

Intercalated material at back.

D.112, D.113 Miscellaneous manuscript notes and graphs ca 1952, 1953, n.d.

2 folders.

D.112 includes note by K.E. Machin referring to work of Ryle.

D.114-D.120 'A radio-astronomy study of the Sun' by K.E. Machin 1950

This was a report on work on radio-astronomy at Cambridge to the Department of Scientific and Industrial Research.

Contents of folder so inscribed divided into seven for ease of reference: manuscript and typescript rough draft.

From Acc 769/27.

D.121 'Ionospheric winds' ca 1950-1951

Contents of folder so inscribed: 'Winds and turbulence in the upper atmosphere' by J.A. Ratcliffe, sent to Ryle for comment, March 1951; manuscript notes; 1950 offprint on...
scintillation of stars.

From Acc 769/24.

D.122-D.125 'Assorted notes + calc's on radio astronomy' ca 1952-1953

Contents of folder so inscribed divided into four for ease of reference: chiefly manuscript notes, jottings, calculations etc.

At D.122 is 'The phase-time racket', not in Ryle’s hand; at D.125 is material from Ryle’s visit to the USA, January-May 1953.

Ryle attended an URSI Joint Meeting at the National Bureau of Standards, Washington DC, April, and the 90th Annual Meeting of the National Academy of Sciences, April.

From Acc 769/24.

D.125A Manuscript notes by Ryle 1953-1955

From Acc 769/16.

D.126-D.129 'The origin of galactic radio radiation with special reference to the contribution from H II regions', essay by P.A.G. Scheuer 1953

P.A.G. Scheuer was born in Frankfurt am Main, Germany, in 1930. He became a naturalized British subject in 1946, and studied at St John’s College, Cambridge, England. He became a research student in the Radio Astronomy Group of the Cavendish Laboratory in 1951, working under Ryle. This essay was submitted in October 1953 for the University's Hamilton Prize, which he won.

Contents of folder so inscribed.

From Acc 769/14.

D.126, D.127 Typescript draft 1953

2 folders.

D.128 Incomplete manuscript draft 1953
D.129  Draft of incomplete letter to van de Hulst from Scheuer  1954

D.130-D.136  ‘Odd notes, calc’s, reprints’  1954-1959
Contents of folder so inscribed.
From Acc 769/11.

D.130  Papers re application for grant for radio astronomy from the Department of Scientific and Industrial Research  1953-1954


D.135  ‘Calculations to do with 1420 Mc H I line […]’ ca 1958
Refers with work with P.A.G. Scheuer.

D.136  Letter from John Baldwin to Ryle, ca 1959; miscellaneous  1954-ca 1959
Baldwin was asked by Ryle to reanalyze angular diameters of radio sources in the 3C survey.

D.137-D.159  ‘2C Survey Data Reduction’  1954-1955
The Second Cambridge Catalogue of Radio Sources (2C), based on observations made with the Cambridge Interferometer at 81.5 MHz, was published in 1955. It comprised a list of 1,936 sources between declinations -38
and +83 and identified two distinct classes of radio star.

Contents of folder so inscribed.

From Acc 769/6.

D.137-D.141 'The spatial distribution and the nature of radio stars' by Ryle and P.A.G. Scheuer
1954-1955

D.137, D.138 Manuscript draft
2 folders.

D.139-D.141 Duplicated typescript draft 'Not completely corrected'
3 folders.

D.142, D.143 'A new statistical method for the study of radio stars'
Rough manuscript draft.
2 folders.

D.144 'The nature & distribution of the radio sources'
Rough manuscript draft.

D.145 'The new Cambridge radio telescope' and 'II The new Cambridge survey'
Rough manuscript drafts.

D.146 Incomplete manuscript draft

D.147, D.148 Miscellaneous notes on analysis of data etc.
2 folders.
D.149-D.159  Data from the 2C survey  
Includes manuscript notes, plots and graphs, and calculations.
11 folders.

D.160-D.164  ‘3C Survey Analysis’  
The Third Cambridge Catalogue of Radio Sources (3C) was based on observations made with the Cambridge Interferometer at 159 MHz and then at 178 MHz. It was published in 1959.

Contents of folder so inscribed.

From Acc 769/13.

D.160  Softback exercise book  
1955-1956  
Used from the front for 3C survey analysis, including notes paginated 96-116, 1955-1956, and at the back for notes on J.A. Ratcliffe’s course on Fourier Transforms, 1956.

D.161  Correspondence from P.A.G. Scheuer and John S[hakeshaft]  
1956  
Chiefly on probability distribution, P(D), of radio stars.

Includes letter from Scheuer to J.A. Ratcliffe with his ‘second attempt at the probability argument in my paper on analysing radio star records’.

Scheuer writes from Catterick Camp, Yorkshire, where he was undergoing National Service with the Royal Signals.

D.162-D.164  Data from the 3C survey  
1955-1957  
Includes manuscript notes, plots and graphs, and calculations.

3 folders.

D.165-D.168  ‘Sputnik I tracking’  
1957-1958  
Contents of folder so inscribed.
From Acc 769/26.

D.165 'Radio observations of the Russian satellite by the staff of the Mullard Radio Astronomy Observatory', duplicated typescript 1957

D.166 Manuscript material, including graph plotting the progress of the satellite 1957

D.167 Papers of the Royal Society's British National Committee for the International Geophysical Year 1957

The British National Committee for the International Geophysical Year coordinated UK monitoring of the satellite.


From Acc 769/18.

D.169 'Notes on Hi Fi intensity survey, August 1959', typescript 1959

D.170 Typescript data 1958-1959

D.171 Manuscript notes and calculations 1958-1959

Some in Scheuer’s hand.

D.172-D.174 'Aperture synthesis’ ca 1958-1959

From Acc 769/9.

D.172 'Aperture synthesis using the earth’s rotation', typescript

D.173 'A new 80 Mc radio star aerial', typescript
D.174 Miscellaneous notes, calculations and data

D.175-D.181 Galactic and extra-galactic radio sources

Contents of folder.

From Acc 1183.


This was the published Third Cambridge Catalogue of Radio Sources (3C).

Offprint, with later manuscript material intercalated.

D.176 'American tropospheric work (from John Hagen)'

Typescript notes on information received from Hagen about his planned observations at 3cm, 8mm and 3mm.

D.177 Duplicated typescript and manuscript notes

Includes Notes on meeting on 'Extragalactic radio astronomy - theoretical problems', 17 November; 'Random thoughts on galactic radio emission and magnetic fields' by J.R. Shakeshaft; notes on 'Pulsar discussion -21.11.69' and 'Proposals for the structure of meetings in the Radio Astronomy Group', 19 December.

D.178 Duplicated typescript and manuscript notes

Includes '150 MHz telescope' by J.E. Baldwin, and 'Energy supply in radio galaxies'.

D.179 Notes on meetings

Duplicated typescript notes on meeting on extragalactic radio sources, 10 February 1971, 'Millimetre programme', 1971-1972

D.180 Typescript notes on extra-galactic radio sources 1972

These short notes by Ryle, P.A.G. Scheuer and M.S. Longair discuss physics and related problems of extra-galactic radio sources.


D.182-D.188 Contents of untitled folder 1950s-1960s, n.d.

Much of this material appears to relate to the Third Cambridge Catalogue of Radio Sources (3C).

From Acc 769/15.

D.182 1950s

Includes plot of Sputnik satellite, October 1957.

D.183 Data from 3C survey N.d.

D.184, D.185 Galaxy maps etc. N.d.

2 folders.

Chiefly of NGC 1275 (Perseus A) and NGC 4374 (in Virgo).

D.186-D.188 Notes, graphs, calculations etc 1960s, n.d.

3 folders.

D.189-D.195 ‘Odd’ 1950s-1970s

Contents of folder so inscribed divided into seven for ease of reference: miscellaneous notes, graphs, photographs of galaxy maps, etc retained in order found. At D.190 is plot of historical observations of Cassiopeia.
From Acc 1183.

D.196-D.200 'M.R. Odd notes' early 1960s

Contents of folder so inscribed.

From Acc 1183.

D.196 Untitled manuscript draft beginning ‘1. Study of radio galaxies now reached exciting stage’ ca 1963

D.197 ‘The radio frequency spectra of discrete radio sources’ by R.G. Conway et al. ca 1963

The back pages are used by Ryle for manuscript notes on 3C data.

D.198-D.200 Miscellaneous manuscript notes, calculations and jottings early 1960s

3 folders.


Contents of folder so inscribed.


From Acc 769/14.

D.201 Draft of letter from Ryle to Woolley reporting the discovery, with Woolley’s reply February 1968


2-4; graph; ‘Application for patent by A. Hewish, n.d.

The data is identified LGM 1 etc, for ‘Little Green Men’.

D.204  ‘Radio source structure’  1968

Manuscript outline of research by ‘CDM 27/7/68’.

From Acc 769/15.

D.205  ‘5 GHZ tests’, manuscript  ca 1968

Not in Ryle’s hand.

From Acc 769/15.


Contents of folder so inscribed.

From Acc 1183.

D.206  ‘ Ionospheric refraction corrections’ by R.A Hinder  1968

Duplicated typescript.

D.207  Miscellaneous material

Includes ‘5 km telescope Offset guiding (‘nodding’)’,
typescript instructions; ‘Meridian obs. refraction effects at
178 Mc/s (at Cambridge latitude)’, manuscript.

D.208  ‘Polarisation’  1969, 1972

Contents of folder so inscribed: includes letter from
Marconi Co. Ltd on feeds for the Cambridge aerial; and
note on ‘Spurious polarization with waveguide polarizor’,
typescript

From Acc 1183.

D.209-D.213  Miscellaneous notes, graphs, data, etc  1960s
At D.209 is comments by M.S. Longair on ‘Perseus Cluster paper’ by Ryle.
May include earlier material.
5 folders.
From Acc 769/15.

D.214 Miscellaneous notes 1960s
Includes annotated duplicated typescript notes of One Mile Telescope meeting, 5 December 1966.
From Acc 769/15.

D.215 Miscellaneous notes, graphs and calculations 1960s
May include earlier material.
From Acc 769/19.

D.216-D.219 ‘Old Res. notes’ 1960s-early 1970s
Contents of folder so inscribed.
From Acc 1183.

D.216 Manuscript notes by R.A. Hinder 1969
‘Points to note about atmospheric phase noise’, January;
‘Diurnal & seasonal variation of atmospheric phase noise’, March;
‘Radio path length variations induced by water evaporated from a forest’, June.

D.217 ‘Observations of atmospheric turbulence with a radio telescope at 5 GHz’ by R.A. Hinder, typescript June 1969

D.218 Typescript notes on work in progress February 1972

D.219 Miscellaneous manuscript notes 1960s-1970s
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.220-D.226</td>
<td>Contents of untitled folder Miscellaneous drafts, notes and figures. From Acc 1183.</td>
<td>early 1970s</td>
</tr>
<tr>
<td>D.220</td>
<td>Typescript draft of ‘Possible plan for astrometry lecture’? by Ryle</td>
<td>1970</td>
</tr>
<tr>
<td></td>
<td>Annotated ‘JRS [Shakeshaft]’. With manuscript comments found attached.</td>
<td></td>
</tr>
<tr>
<td>D.221</td>
<td>‘Can the fundamental system by replaced by a reference system of galaxies’ by W. Fricke, typescript</td>
<td>1970</td>
</tr>
<tr>
<td></td>
<td>Annotated ‘JRS [Shakeshaft]’.</td>
<td></td>
</tr>
<tr>
<td>D.222</td>
<td>‘Smart Chapter 16 by B. Elsmore’, typescript</td>
<td>ca 1970</td>
</tr>
<tr>
<td></td>
<td>Annotated ‘First draft’.</td>
<td></td>
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<tr>
<td></td>
<td>Refers to chapter 16 of W.M. Smart, <em>Spherical Astronomy</em> (Cambridge University Press, 1931). Elsmore</td>
<td></td>
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<tr>
<td></td>
<td>was based at the Mullard Radio Astronomy Observatory.</td>
<td></td>
</tr>
<tr>
<td>D.223</td>
<td>Data from One Mile telescope</td>
<td>1970</td>
</tr>
<tr>
<td>D.224-D.226</td>
<td>Miscellaneous notes, graphs, etc 3 folders.</td>
<td>early 1970s</td>
</tr>
<tr>
<td>D.227</td>
<td>Miscellaneous drafts, notes and figures</td>
<td>1971-1973</td>
</tr>
<tr>
<td></td>
<td>From Acc 1183.</td>
<td></td>
</tr>
<tr>
<td>D.228</td>
<td>‘Cygnus X-1 - a spectroscopic binary with a heavy</td>
<td>1971</td>
</tr>
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</table>
companion?’ by B.L. Webster and P. Murdin

Typescript draft sent to Ryle for comment, with his and B.L. Fanaroff’s manuscript notes and calculations attached.

From Acc 1183.

D.229

‘Precise positions of radio sources. IV. Improved solutions and error analysis for 59 sources’ by P. Brosche et al

Copy of typescript with manuscript workings.

From Acc 1183.

D.230

Correspondence from C.A. Murray re positions of radio sources, with manuscript notes and graphs

Murray was based at the Royal Greenwich Observatory, Herstmonceaux Castle, Sussex. See also D.248.

From Acc 1183.

D.231

‘Some problems in radio galaxies!’ by Ryle, typescript

From Acc 1183.

D.232

‘3C 33/61.1/379.1/390.3’, typescript notes on a draft paper

Manuscript notes on backs of last two pages, not in Ryle’s hand.

From Acc 1183.

D.233

‘Bent components in radio galaxies’, typescript with manuscript annotations by Ryle

With manuscript notes found therewith.

From Acc 1183

D.234, D.235

Contents of untitled folder

From Acc 1183.
D.234 Photographs and plots of galaxies (in 3C survey)

D.235 'The measurement of circular polarization' by Ryle, June 1974; draft letter to V. Kotelnikov re proposed collaboration; etc

D.236 'Sixth radio outburst of Cygnus X-3' by K.A. Marsh, C.R. Purton and P.A. Feldman


From Acc 1183.

D.237 Contents of untitled folder

Correspondence and data re 3C quasars.

From Acc 1183.

D.238-D.241 'Radio galaxies'

Contents of folder so inscribed.

From Acc 1183.

D.238 Print-out of 'P distribution of whole of 3CR (with Z or mv measurements) for comparison', with miscellaneous material found therewith

Material found therewith includes notes of 'Extragalactic radio source meeting, 24 January.'

D.239 'The component structure in e.g. radio sources' by Ryle, manuscript

With rough notes found therewith.

D.240 Notes of 'Extragalactic' meetings; 'Problems related to the Theory of Extragalactic Radio Sources', typescript; manuscript notes

1974, 1976
D.241 Contents of untitled envelope: plots, photographs etc of Abell 754 galaxy cluster. 1974

D.242-D.247 Untitled bundle of notes and data 1974
Chiefly from galaxies 3C 84 (Perseus A), 3C 273B and 3C 279.
6 folders.
From Acc 1183.

D.248-D.254 ‘Old astronomy’ early 1970s
Contents of folder so inscribed: chiefly material on radio source positions.
From Acc 1183.

D.248 Correspondence and papers re source positions 1970, 1972
Includes exchange with C.A. Murray (see D.230), lists of source positions and manuscript notes.

4 folders.

D.253 Graphs comparing findings of Wade, Cohen and 5km telescope ca 1972

D.254 Manuscript notes early 1970s

D.255-D.261 ‘Circular Polarisation’ early 1970s
Contents of folder so inscribed: material re article by Ryle, D.M. Odell and P.C. Waggett, ‘Observations of the polarisation of some compact radio sources at 5 GHZ’
From Acc 1183.
D.255-D.257 Typescript and manuscript drafts and pages of drafts, corrections and suggestions

3 folders.

D.258 Miscellaneous manuscript notes and graphs; data

D.259-D.261 Duplicated typescript and printed background material

3 folders.

D.262 ‘Small-scale structure of quasars and galactic nuclei at radio wavelengths’ by M.H. Cohen

1975

Offprint, with manuscript notes etc intercalated.

From Acc 1183.

D.263 ‘Aperture synthesis observations of circular polarization: I Methods and their application to the observation of unresolved sources at 1.4 GHz’ by K.W. Weiler and E. Raimund

1976

Preprint, with manuscript notes etc intercalated.

Published in Astronomy and Astrophysics vol. 52 (1976). See also D.275.

From Acc 1183.

D.264 Data on galaxy 3C 273

1976

3C 273 was the first quasar to be identified. It is in the constellation of Virgo.

From Acc 1183.

D.265 ‘Research programmes’

1976

Contents of folder so inscribed: includes typescript notes headed ‘Extragalactic’, ‘Structure of galaxies’ and on results of observations at various GHz; letter from ‘Adrian’ at Cambridge Institute of Astronomy on observation of W50 nebula, May 1976.
D.266
Contents of untitled envelope
Miscellaneous manuscript notes etc.
From Acc 1183.

D.267-D.270
'R.A. Notes & memos'
Contents of folder so titled: data, miscellaneous manuscript notes,
From Acc 1183.

D.267
From Acc 1183.

D.268-D.270
Miscellaneous manuscript notes and graphs; data
3 folders.
From Acc 1183.

D.271-D.274
'Odd'
Contents of folder so inscribed divided into four for ease of reference: miscellaneous notes, jottings, graphs, data and photographs. Include observations on Cygnus.
From Acc 769/19.

D.275
'Hight accuracy measurements of linear and circular polarisation at λ 49 cm' by K.W. Weiler and A.S. Wilson
From Acc 1183.
D.276, D.277  'MR Astronomical papers'  1970s
Contents of folder so inscribed divided into two for ease of reference: miscellaneous notes and data, chiefly on 3C 405 (Cygnus A).
From Acc 1183.

D.278  'A catalogue of high accuracy circular polarization measurements' by K.W. Weiler and I. de Pater, typescript with minor annotations  1982
From Acc 1183.

D.279  Manuscript and copy manuscript graphs  N.d.
From Acc 1200.
Possibly compiled for publications.

Contents of folder so inscribed.
From Acc 769/17.

D.280  'Radio telescopes', typescript with manuscript additions  early 1960s

D.281  'The measurement of the accurate positions of radio sources', typescript with extensive manuscript correction, photocopy  1970

D.282  'Supersynthesis tables 38.5 ft'  ca 1965
Bound volume.

Most of the material that can be identified appears to relate to the 3C survey.
9 folders.


D.292-D.294 Contents of untitled folder 1960s, n.d.

Miscellaneous drafts, notes and figures. Includes data from galaxies 3C 274, 299R, 405.

3 folders.

From Acc 1183.

D.295 Photocopy manuscript table titled ‘VLBI ROGERS- CAMB’ N.d.

From Acc 1183.

D.295A Ms notes re transformation of mechanical energy to heat energy, Doppler effect and reflection and refraction nd

Acc 1787.


D.296-D.342 Design, construction and testing of equipment

D.343-D.359 Administration, planning and funding of windpower research at Cambridge

D.360-D.369 Cavendish Laboratory Wind Energy Group Publications

D.370-D.400 Correspondence

D.401-D.405 Publications

D.406-D.413 Illustrative material

D.414-D.448 Background material
Design, construction and testing of equipment

Drawing of blueprints and construction of test equipment was done by Donald R. Mackay of the Britannia Works in Cambridge.

'Martin's WINDMILL DESIGNS 1 & 2'

Contents of folder so inscribed: manuscript notes, sketches and calculations, correspondence from D.R. Mackay.

From Acc 788/50.

'Early Ideas!'

Bundle so labelled.

'Windmill No. 1'

Bundle so labelled.

Untitled bundle, ?windmill number 2

Loose manuscript notes etc.

'Other windmill designs'

Contents of folder so inscribed divided into three for ease of reference: manuscript notes, photocopied material, sketches and calculations, commercial literature.

From Acc 788/50.

Blueprints etc of equipment

Some prepared by D.R. Mackay.

5 folders.

From Acc 788/50.

'Windmill D. Mackay 17.2.75'
Contents of envelope so inscribed: manuscript notes, photocopied material, sketches and calculations, commercial literature and correspondence.

From Acc 788/51.

D.309-D.311 Blueprints etc of equipment

From Acc 788/51.

D.309 Blueprints

D.310, D.311 Manuscript notes, calculations etc found therewith

2 folders.

D.312 Contents of untitled envelope

Commercial correspondence re supply of alternator, and commercial literature thereon; manuscript calculations.

From Acc 1183.

D.313-D.317 ‘PFS W.P.’

Contents of a folder so inscribed divided into five for ease of reference: manuscript notes and calculations; computer generated data

PFS is P.F. Scott, a researcher on windpower at Cambridge.

From Acc 1183.

D.318, D.319 ‘Windmill sliprings’

Contents of envelope so inscribed: commercial literature with notes by ‘AS’.

2 folders.

From Acc 1183.

D.320 Contents of untitled envelope

1976
Blueprints of braking mechanism, by D.R. Mackay.

From Acc 1183.

D.321 'Heat pump'  
ca 1976

Contents of folder so inscribed: draft letter to ‘J’;  
manuscript notes, diagram of ‘Schematic system layout for  
wind driven heat pump’.

From Acc 1183.

D.322 'Energy + nuclear issues'  
ca 1976

Contents of folder so inscribed: manuscript notes on  
energy in wind.

From Acc 788/50.

D.323 ‘Summary of ETSU Report (+ my comments)’  
1977

Contents of Ryle’s envelope so inscribed: manuscript  
notes.

The report referred to is, ‘The prospects for the generation  
of electricity from wind energy in the United Kingdom’,  
Energy Technology Support Unit, February 1977.

From Acc 1183.

D.324-D.329 'Wind turbines'  
1977-1979

Contents of Ryle’s folder so inscribed.

From Acc 1183.

D.324 Correspondence with B.D. Jones, Rutherford Laboratory  
1977, 1978

Includes correspondence re Ryle’s grant application to the  
Energy Proposals Committee for work on blade design and  
control systems (see also D.347), papers for Workshop on  
Wind Energy Research and Development, Cavendish  
Laboratory, Cambridge, 13 January 1978.

D.325 'R&D problems in wind turbine generator systems -  
1978
discussion note for wind energy workshop, Cambridge, January 1978' by R.J. Leicester et al.

D.326 'Wind energy systems', manuscript not in Ryle's hand

D.327 Computer generated data

D.328, D.329 Manuscript notes and graphs etc
2 folders.

D.330 Contents of untitled envelope ca 1977
Manuscript notes, including notes on ‘Propeller no. 2’.
From Acc 1183.

D.331 Miscellaneous manuscript notes and calculations 1977-1981
From Acc 1183.

D.332-D.335 'Mosquito wing dr[awing]gs' 1980
Contents of envelope so inscribed: copies of plans for the construction of the wings of de Havilland Mosquito aeroplane.
The wings of the Mosquito were largely constructed from birch plywood and Ryle was interested in their construction in relation to the design of windmills.
4 folders.
From Acc 1183.

D.336 'Wind Turbines' September 1980
Memorandum with manuscript notes found therewith.
From Acc 788/50.
D.337  Miscellaneous manuscript notes, calculations etc.  ca 1980
From Acc 788/52.

From Acc 769/15.

D.339  Photocopied material on glider construction  N.d.
Giders are constructed from ultra-lightweight materials and Ryle was interested in their construction in relation to the design of windmills.
From Acc 769/15.

D.340-D.342  Miscellaneous notes, calculations etc  N.d.
3 folders.
From Acc 1183.

Material re reports on progress, grant applications etc.
See also F.117, F.118, F.118, F.120.

D.343-D.345  Correspondence and papers re participation in consortium investigating horizontal axis windmills  1977
This consortium was formed at the initiative of P. Musgrove of Reading University. See also D.385.
3 folders.
D.344 includes brief account of windmill research at Cambridge.
From Acc 1183.
D.346  'Wind energy in the Cavendish' by Ryle, typescript and manuscript, with extensive manuscript corrections  March 1977

From Acc 1183.

D.347  Grant application to the Science Research Council Energy Proposals Committee ‘Investigations into the design of wind energy systems’  1977

See also D.324.

From Acc 1183.

D.348  'Wind energy in Cambridge' by Ryle, manuscript notes  ca 1977

From Acc 1183.

D.349  Miscellaneous material  1978-1980

From Acc 1183.

D.350-D.352  'Wind-power and other alternative sources of energy'  ca 1978

Description of research projects and previous research at Cambridge. Probably for grant proposal.

Manuscript and typescript drafts.

3 folders.

From Acc 788/50.

D.353  Grant applications to the Science Research Council, 'The stressing of wind turbine blades and associated structures' and 'The stressing of wind turbine blades of different construction'  1980

Includes negative response from Science Research Council.

From Acc 1183.
D.354 Agreement with UKAEA for, ‘Comparison of wind tunnel
tests, field tests and computer models of 3 metre horizontal
axis wind turbine motors’
1980-1981
From Acc 1183.

D.355 Correspondence and memoranda re wind energy work
within the radio astronomy group.
November-December 1980
Includes ‘Provision of facilities for the wind energy projects’
y by A.J.F. Metherell.
From Acc 1183.

D.356 Copy of letter from A.J.F. Metherell to D.J. Milborrow of
the Central Electricity Research Laboratories, summarising
discussions on wind power projects
December 1980
From Acc 1183.

D.357 ‘Wind power generation: the effects of natural and
machine-generated turbulence’, photocopy typescript
ca 1980
Description of research project and previous research at
Cambridge, by P.F. Scott.
From Acc 1183.

D.358 ‘Future wind energy programme’ at Cambridge by D.M.A.
Wilson
August 1982
From Acc 769/15.

D.359 Miscellaneous wind energy material
ca 1982, n.d.
Includes notes for future research, ca 1982; S.J.R.
Powles’s progress report, n.d.
From Acc 1183.

D.360-D.369 Cavendish Laboratory Wind Energy Group 1979-1989
Publications
From Acc 1183.


D.361-D.369  Copies of publications 1979-1983

9 folders.

Publications numbered 4-13 and 16 in the list at D.357.


This correspondence includes letters re specific wind energy projects, design of equipment, and the place of wind energy within national energy policy.

D.370  1975-1976

Chiefly correspondence with D.R. Mackay and Permali Gloucester Ltd re wind-generator, with note of 'The Mackay wind generator'.

From Acc 788/51 and Acc 1183.

D.371  January-February 1977

Includes correspondence with S.F. Edwards, Science Research Council, re importance of support for renewable sources of energy, with particular reference to wind-power.

From Acc 1183.

D.372  March 1977

Includes letter from G.W.-W. Pontin, Director of the Wind Energy Supply Co. Ltd, enclosing extracts from report for Department of Energy, with Ryle’s manuscript notes.

From Acc 1183.
D.373 April-May 1977
Includes correspondence with J.A. Sumner and J. Keable re windmills and heat pumps.
From Acc 1183.

D.374 May 1977
Correspondence from office of Prince Philip, the Duke of Edinburgh.
From Acc 1183.

D.375 June 1977
From Acc 1183.

D.376 September-October 1977
From Acc 1183.

D.377 November 1977
Includes letter from W.S. Bannister re wind turbine design etc at Napier College, Edinburgh.
From Acc 1183.

D.378 February-March 1978
Correspondence with R. Gray, re design of ‘an improved Flettner type wind mill’. Includes enclosures.
From Acc 788/51.

D.379 June-July 1978
Includes correspondence from H.T. Grut re design of wind turbine blade.

From Acc 1183.

D.380 September-December 1978

From Acc 788/52 and Acc 1183.

D.381 January 1979

Correspondence arising from Ryle’s letter to Daily Telegraph on ‘The case for building giant windmills’.

From Acc 1183.

D.382 March 1979

Contents of envelope inscribed ‘Hydrogen Tom Bacon’: correspondence and papers from F.T. Bacon re windpower and fuel cells.

From Acc 788/52.

D.383 May 1979

From Acc 1183.

D.384 May-August 1979

Includes letter from N. Clarke, King’s College London Wheatstone Laboratory, on rotor design; copy of letter from D.J. Milborrow, Central Electricity Research Laboratories, supporting the Cavendish Laboratory wind power proposals to the Energy Technology Support Unit.

From Acc 1183.

D.385 November-December 1979

Includes letter to D.T. Swift-Hook, Central Electricity Generating Board Research Division, setting out plans of consortium to work on horizontal axis windmills (see also D.343-D.345).
From Acc 1183.

D.386 January-February 1980
From Acc 1183.

D.387 March-May 1980
From Acc 1183.

D.388 June-July 1980
Includes correspondence with Scottish Offshore Partnership re design of windmills.
From Acc 1183.

D.389 July 1980
Wind energy proposals of Scottish Offshore Partnership.
Includes project proposal ‘Feasibility study of hydrostatic transmission and synchronous generation system’.
From Acc 1183.

D.390 August 1980
Includes design of horizontal axis windmill to be attached to airship; reaction to Central Electricity Generating Board decision to adopt wind power generators not of British design.
From Acc 1183.

D.391 September 1980
Letter from S.J.R. Powles enclosing his notes on ‘Wind as an alternative energy source’ and other material.
From Acc 788/52.
D.392 September-October 1980
From Acc 1183.

D.393 November-December 1980
Includes copy of letter from A.J.F. Metherell to D.J. Milborrow, Central Electricity Research Laboratories, arising from visit to the Laboratories discussing work in hand and future projects.
From Acc 1183.

D.394 January 1981
Includes further design of horizontal axis windmill to be attached to airship.
From Acc 1183.

D.395 January-February 1981
Correspondence and papers from Central Electricity Generating Board re wind power collaboration.
From Acc 1183.

D.396 March 1981
Letter from W.G. Parr to A.J.F. Metherall re aerogenerator.
From Acc 1183.

D.397 September 1981
Includes Scottish Offshore Partnership ‘Study to assess the use of a hydraulic power system tin aerogenerators’, with covering letter thanking Ryle for his assistance and note by D.R. Mackay.
From Acc 1183.

D.398 November-December 1981
From Acc 1183.

D.399  
February-July 1982  
From Acc 1183.

D.400  
N.d.  
Includes E.J. Fordham’s ‘Summary of work on wind energy’.  
From Acc 1183.

D.401-D.405  
Publications  
late 1970s  

Shorter publications by Ryle on windpower. See also section F.

D.401  
‘The economics of alternative energy sources’, Nature vol 267 (1977), 111-117  
1977  
Typescript copy of response to the article.  
From Acc 1183.

D.402  
1978  
Responses critical and supportive of the article.  
Typescript drafts, photocopied articles.  
From Acc 788/51 and Acc 1183.

D.403  
‘The answer is blowing in the wind’, photocopy of published letter in the Guardian  
late 1970s  
From Acc 788/52.

D.404  
‘Save energy and harness nature power’, photocopy of published letter to the press  
late 1970s
D.405  ‘The stressing of wind turbine blades of different construction arising from wind turbulence’

Typescript and manuscript draft for publication.

From Acc 1183.

D.406-D.413  Illustrative material

See also K.77, K.78.

D.406  ‘M’s windmills’ and ‘1975 - Norfolk horses we loved + windmills’.

Contents of photographic wallet so inscribed: 10 colour photographs showing construction of a simple windmill; negatives.

From Acc 788/51.

D.407  ‘Photos of windmill’

Contents of envelope: 3 colour photographs identical to those at D.406.

From Acc 788/50.

D.408  ‘Martin Photos of windmill black Jim’

Contents of envelope: 5 monochrome photographs of windmill blade; manuscript jottings.

From Acc 1183.

D.409  Contents of envelope

N.d.
2 black and white polaroid photographs of generator; manuscript jottings.

From Acc 1183.

D.410 '20' dia windmill near Helston, Cornwall' N.d.

2pp manuscript description (not in Ryle’s hand), with 4 photographs (one is only a section of a photograph) found clipped to it.

From Acc 1183.

D.411 Photograph of windmill blade N.d.

From Acc 1183.

D.412 Photographs of ?windmill fixtures N.d.

2 photographs.

From Acc 788/50.

D.413 Contents of envelope N.d.

Two photographic slides of windmills.

From Acc 1183.

D.414-D.448 Background material 1960s-1980s

From Acc 788/52 and Acc 1183.

D.414 Commercial literature 1970s-1980s

From Acc 1183.

D.415-D.417 Government literature 1970s

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<th>D.418-D.420</th>
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<th>Papers from the Central Electricity Generating Board</th>
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D.429-D.431  1977
3 folders.
From Acc 788/52 and Acc 1183.

D.432  1978
From Acc 788/52 and Acc 1183.

D.433-D.435  1979
3 folders.
From Acc 1183.

D.436-D.439  1980
4 folders.
From Acc 1183.

D.440-D.442  1981
3 folders.
From Acc 1183.

D.443  N.d.
From Acc 1183.

D.444  Newspaper cuttings  1977-1980
From Acc 1183.

From Acc 1183.

D.448 Miscellaneous
From Acc 1183.


The bulk of this material relates to Ryle’s Patent Specification of 9 March 1977 for ‘Improvements in or relating to a device for the utilisation of the flow of water’ (short title ‘Power from tidal streams’).

From Acc 788/50, Acc 788/52 and Acc 1183.

From Acc 788/50.

D.449 Manuscript and typescript drafts ca 1977

D.450 Patent 1977


Found within three envelopes. Includes correspondence from Urquhart-Dykes & Lord; manuscript drafts of letters from Ryle; and copies of related patent specifications sent to Ryle by Urquhart-Dykes & Lord.

From Acc 788/52.

D.451 September 1975
Letter re possible patent for wind generator.
D.452 December 1976

D.453-D.455 January 1977
3 folders.

D.456 February 1977
Draft patent specification drawn up by Urquhart-Dykes & Lord, with Ryle's comments thereon.

D.457 March-April 1977

D.458 December 1977

D.459, D.460 Other correspondence 1977-1983
From Acc 788/52 and Acc 1183.

D.459 General correspondence 1977-1978
Includes correspondence from the National Research Development Corporation.
From Acc 788/52.

D.460 Circular letters from the National Association of Water Power Users 1977-1983
From Acc 1183.

D.461 Miscellaneous material N.d.
Manuscript notes; photocopy article 'Power from the tides' by M.B. Holland.
From Acc 788/52.
This material nearly all relates to Ryle’s anti-nuclear activities and his interest in alternative energy.

E.1-E.33 RYLE’S ARTICLES AND LETTERS TO THE PRESS

E.34-E.143 CORRESPONDENCE

E.144-E.159 ORGANISATIONS

E.160-E.224 BACKGROUND MATERIAL
E.1-E.33  RYLE’S ARTICLES AND LETTERS TO THE PRESS  1966-1984


From Acc 788 and Acc 1183. The bulk was found in Acc 1883 unless otherwise stated.

From 1976 to his death in Ryle wrote many letters to the press, was cosignatory on appeals and lobbied politicians and organisations.

E.1  'Labour voters & VietNam', *The Times*, 25 April 1966  1966

Letter from Vanessa Redgrave; published Open Letter (multiple signatories).

From Acc 788/61.

E.2  'Nuclear energy: the serious doubts that put our future at risk', *The Times*, 14 December 1976  1976

See also E.93, F.99.

E.3  Preface to *An alternative energy strategy for the United Kingdom*, National Centre for Alternative Technology, Machynlleth, Powys, June 1977  1977

E.4  'How to throw light on the future', *Guardian*, 1 June 1977  1977

E.5  Letter to *The Times*, 5 October 1977  1977

Reply (17 October) only.


E.7  'A dangerous myth about nuclear power', *Daily Telegraph*, 28 December 1978  1978

E.8  'Why Waldegrave fails to convince an expert of the case for nuclear power', *Guardian*, 6 July 1979  1979
With letters responding.

E.9  'Untangling the knots in Harrisburg’s pipeline’ *Guardian*, 17 July, and ‘When radiation reaches a dangerous level’, *Guardian*, 24 July 1979

This correspondence arose in responses to Ryle’s 6 July letter (E.8).

See also E.104.

E.10  Contribution to ‘The nuclear kingdom’, *Observer*, 28 October 1979


Letters arising only.


Letter arising only.

E.14  ‘Risk and rationale of a nuclear deterrent’, *The Times*, 28 July 1980

Multiple signatories. See E.112.

With report on the letter from *Cambridge Evening News*.

E.15  ‘Why MPS are worried over nuclear secrecy’, *Guardian*, 11 August 1980

E.16-E.20  *Towards the Nuclear Holocaust*, Menard Press 1981

See also F.133-F.170
E.16-E.19  Typescript draft  1981
4 folders.

E.20  Reviews


E.22  'Use of exported plutonium', The Times, 17 October 1981  1981

See also F.173-F.177.

Also includes reply to 16 July letter.
See also E.73.

E.25  'Nuclear Balance', The Times, 30 March 1983  1983

E.26  'Nuclear answers needed', Observer, 3 July 1983  1983
Also includes letter from R.V. Hesketh.

E.27  'Ideals that have no place in the age of secrecy', Guardian, 23 April 1984  1984
See also F.180.

E.28  'Nuclear deaths' by Lady Ryle, Cambridge Evening News  mid 1980s
<table>
<thead>
<tr>
<th>E.29</th>
<th>Cruise Missiles in Britain, for <em>The Times</em>, 27 February 1980</th>
<th>1980</th>
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<tbody>
<tr>
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<td>Typescript draft of Open Letter.</td>
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<td>Sussex University.</td>
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<tr>
<td>E.30</td>
<td>'Why do they lie to us?', 12 February 1983</td>
<td>1983</td>
</tr>
<tr>
<td></td>
<td>Typescript.</td>
<td></td>
</tr>
<tr>
<td>E.30A</td>
<td>'Defence strategy and its consequences' by Ryle and J.</td>
<td>N.d.</td>
</tr>
<tr>
<td></td>
<td>Inkson.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Typescript.</td>
<td></td>
</tr>
<tr>
<td>E.31</td>
<td>'Question for the Church at Easter Time', 1983/1984</td>
<td>1983 or 1984</td>
</tr>
<tr>
<td></td>
<td>Manuscript.</td>
<td></td>
</tr>
<tr>
<td>E.32</td>
<td>'What is unilateralism?'</td>
<td>N.d.</td>
</tr>
<tr>
<td></td>
<td>Typescript.</td>
<td></td>
</tr>
<tr>
<td>E.33</td>
<td>'Monetarism - a them and us syndrome'</td>
<td>N.d.</td>
</tr>
<tr>
<td></td>
<td>Manuscript.</td>
<td></td>
</tr>
<tr>
<td>E.34-E.143</td>
<td><strong>CORRESPONDENCE</strong></td>
<td>1962-1984</td>
</tr>
<tr>
<td></td>
<td>From 788/40, Acc 788/53, Acc 1200/2 and Acc 1183. Acc 1183 unless stated otherwise.</td>
<td></td>
</tr>
<tr>
<td>E.34-E.88</td>
<td><strong>Named correspondents</strong></td>
<td>1978-1984</td>
</tr>
<tr>
<td>E.34-E.38</td>
<td>D. Dixon</td>
<td>1979</td>
</tr>
</tbody>
</table>
Dixon wrote from Swainswick in Bath with photocopied background material on nuclear arms and nuclear accidents in the USSR.

5 folders.
Sheila Durie and Rob Edwards wrote *Fuelling the Nuclear Arms Race: the links between nuclear power and weapons* for Pluto Press (1982). Ryle commented on the draft.

E.44-E.48 P. Goodwin 1981
5 folders.
Peter Goodwin wrote *Nuclear War: the facts on your survival* for Ash & Grant (1981). Ryle commented on the draft.

E.49-E.81 R.V. Hesketh 1981-1984
Ross Hesketh joined the Central Electricity Generating Board (CEGB) in 1959, as a nuclear physicist at the Nuclear Laboratories, Berkeley, Gloucestershire. In 1966 he was appointed Research Head, Solid State Physics. In the early 1980s, he began warning that the sale of plutonium from the UK's civil nuclear power programme to the USA could lead to nuclear weapons proliferation. He used official notepaper in a letter to *The Times* and was disciplined by the CEGB but continued his claims regarding plutonium from Britain’s nuclear power plants. After making these claims on BBC Radio, Hesketh was again disciplined. Soon afterwards, he was told he was being transferred to a new job. Hesketh refused the transfer, seeing it as a demotion and as stemming from his public statements concerning plutonium. After making his views about his transfer known to the media, he was found guilty of breaching CEGB regulations and in June 1983, Hesketh was dismissed amidst much publicity. A few months later, pending an industrial tribunal he was reinstated.

Hesketh subsequently held posts in Nigeria and Oman before retirement back to the UK. In 1999 he was vindicated when the USA admitted plutonium from the UK had been used in its military programme. He died in 2004.
From Acc 788/40, Acc 788/53 and Acc 1200/2.

See also E.24.

**E.49-E.61** ‘Ross Hesketh correspondence (1/2)’


13 folders.

From Acc 1200/2.

**E.62-E.66** Correspondence from Hesketh

Includes material re his dismissal from CEGB.

5 folders.

**E.67** Other correspondents

Subjects include letters to the press, and reception of Ryle’s pamphlet *Towards the Nuclear Holocaust*.

**E.68** Newspaper cuttings


Also includes draft of ‘Nuclear answers needed’, *Observer*, 3 July 1983 (E.26).

**E.69** Manuscript notes, incomplete and draft letters etc
Includes Ryle’s draft reply to a Departmental instruction not to use laboratory notepaper for letters to the press (see E.120).

E.70-E.80  
‘Pu’  
1981-1983

Contents of folder so labelled: correspondence, newspaper cuttings and photocopies, chiefly re use of UK plutonium. Also includes draft and published letter, ‘The unanswered questions about our plutonium exports’ by Ryle and Hesketh, Guardian, 19 August 1982; application by SANA (Scientists against Nuclear Arms) for research on military uses of civil plutonium; newspaper cuttings re Hesketh’s dismissal and reappointment.

11 folders.

From Acc 788/40.

E.81  
Papers re Hesketh Defence Fund and related  
1983

From Acc 788/53.

E.82-E.85  
R. Munro and T. Cavalier Smith  
1978-1979

4 folders.

Robin Munro wrote on energy and pollution. He asked Ryle to comment on part of a draft book he was editing on biosciences and society written by Tom Cavalier Smith.

E.86-E.88  
B. Rome  
1979-1982

Typescript memoranda.

3 folders.

Brian Rome was based in the Law Department of Bristol Polytechnic. He produced and circulated regular memoranda on nuclear power for use by anti-nuclear activists.

E.89-E.137  
Chronological sequence  
1962-1984

This correspondence is varied. It includes letters mostly incoming from politicians, fellow scientists and
environmental campaigners and requests to support campaigns, attend functions and give talks (generally declined).

E.89 1962, 1965

1962 re Anti-Hanging petition supported by Ryle; 1965 invitation to become Vice-President of Cambridge CND (declined).

E.90 1975

Paper by D. Gabor, ‘Sketching the development of mankind and our outlook for the future’ (presented to International Conference on Science and Absolute Values, 1975).

E.91, E.92 March 1976

Information from C. Conroy, Friends of the Earth. 2 folders.

E.93 November-December 1976

Includes typescript draft by Ryle, ‘Nuclear power: when are we going to have the real debate?’, published in The Times as ‘Nuclear energy: the serious doubts that put our future at risk’, 14 December 1976, see E.2, and related draft letter to Secretary of State for Energy.

E.94 January-February 1977

Includes letter from Ryle to S.F. Edwards setting out the case for wind energy.

E.95 March-April 1977

E.96 May 1977

Letter from F.T. Bacon, fuel cell pioneer, enclosing paper ‘The development and practical application of fuel cells’. 
E.97  May-June 1977

E.98  August-September 1977
Subjects include energy costs and uranium mining.

E.99  1978

E.100  February 1979
Includes ‘Energy perspective for the UK’ by L. Grainger, Chairman, National Coal Board (IEA Services).

E.101, E.102  March 1979
Subjects include support for work on wind energy, siting of nuclear power stations in the UK and the economics of nuclear power.

2 folders.

E.103  April-May 1979

E.104  June-July 1979
Includes draft of letter to the Guardian and related correspondence (see also E.9); letter from the Prime Minister, Margaret Thatcher, re choice of nuclear reactor.

E.105  September-October 1979

E.106  November 1979

E.107  January-February 1980
E.108  March-April 1980

E.109, E.110  May 1980

E.110 is material on Groupe de Bellerive meeting on nuclear power, London, 1980.

2 folders.

E.111  June 1980

Includes appeal on behalf of scientists in the Ukrainian Helsinki Monitoring Group.

E.112  July 1980


E.113  August 1980

Includes letter from the journalist Duncan Campbell on nuclear weapons production and on government monitoring of satellite communications.

E.114  September-October 1980

Includes correspondence with Hugh Montefiore, Bishop of Birmingham, re nuclear power.

E.115  November 1980

Subjects include effects of industrial exposure to radiation.

E.116  December 1980

E.117  January-February 1981

Includes complaint re CEGB advertisements in Home and
Family magazine.

Home and Family was the magazine of the Mothers' Union.

E.118 March-April 1981

E.119 April 1981


E.120 May 1981

Includes memorandum advising members of staff of the Cavendish Laboratory not to use headed notepaper for letters to the Press. For draft of Ryle’s reply see E.69.

E.121 June 1981

Include correspondence re Ryle’s pamphlet Towards the Nuclear Holocaust; Ryle’s comments on two letters received May and June 1981.

E.122 July 1981

Subjects include the relation between civil and military uses of nuclear power, and NATO defence strategy.

E.123 August 1981

Draft on ‘Alternative defence and the resistance in occupied Europe’ by M. Randle.

E.124 September 1981

Includes copy of letter to East Anglian Daily Times, 29 September.

E.125 November-December 1981

Subjects include the pamphlet Defended to Death (with
Ryle’s notes) see also F.288-F.295, ‘neutron bomb’, cruise missile siting, European Nuclear Disarmament and oil and gas energy.

E.126 January 1982
Includes draft of ‘The electrification of British Railways using nuclear reactors’ by F. Slaughter.

E.127 February 1982

E.128 March 1982
Subjects include effects of nuclear explosion and Ryle’s pamphlet Is there a case for nuclear power?

E.129 April 1982

E.130 May 1982
Includes address of Rev. M. Mayne for ‘nuclear teach-in’; Ryle’s comments on Friends of the Earth critique of Department of Energy’s research into renewable energy.

E.131, E.132 June 1982
2 folders.
Chiefly draft of ‘Verification of a comprehensive nuclear test ban’ by L.R. Sykes and J.F. Everden, sent to Ryle for interest.

E.133 July-November 1982

E.134 January-February 1983
Includes exchange with the broadcaster Alistair Cooke over comments in his broadcast ‘Letter from America’; letters to Michael Heseltine (Secretary of State for Defence) and Michael Foot (Leader of the Labour party) on
defence matters.

E.135 May-July 1983
Includes letter to Denis Healey (the Labour party’s Shadow Foreign Secretary) on the sinking of the Argentinean warship General Belgrano; account of the life of Otto Frisch and his attitude to nuclear weapons by Rev. Eric James; letter to the Observer, June 1983.

E.136 October 1983-April 1984
Includes Ryle’s letter sent to US Senators about Cruise missiles and letters to Labour party politicians.

E.137 May-July 1984

E.138, E.139 Undated
2 folders.

E.140-E.143 Ryle’s drafts
Rough drafts of Ryle’s letters.
Rarely any indication of date, often first name only.
4 folders.

E.144-E.159 ORGANISATIONS 1977-1984
Circulars, papers of meetings, posters etc.
In alphabetical order by organisation.
From Acc 788/45, Acc 788/50 and Acc 1183.

E.144 E 1980-1984

From Acc 1183.

From Acc 1183.

E.146, E.147 Green Alliance 1979-1981
Ryle was an early member of the Green Alliance joining in 1979.
2 folders.
From Acc 1183.

E.148 Greenpeace 1979-1983
From Acc 788/50.

From Acc 1183.

E.150 Labour Action for Peace 1980
From Acc 1183.

E.151 Liberal Party 1981
From Acc 1183.

3 folders.
From Acc 788/45 and Acc 1183.
<table>
<thead>
<tr>
<th>E.155</th>
<th>Professors World Peace Academy in Europa</th>
<th>1982</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>From Acc 1183.</td>
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</table>

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<tr>
<th>E.156</th>
<th>Pugwash Conferences on Science and World Affairs</th>
<th>1982</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>From Acc 788/48.</td>
<td></td>
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</table>

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<thead>
<tr>
<th>E.157</th>
<th>Peace campaign in Cambridge University, Peace Tax Campaign.</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From Acc 1183.</td>
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<tr>
<th>E.158</th>
<th>Schools against the Bomb, Scientists against Nuclear Arms, Scottish Campaign to Resist the Atomic Menace.</th>
<th>1981, 1983</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From Acc 1183.</td>
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<td>From Acc 1183.</td>
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<tr>
<td></td>
<td>Ryle kept extensive background material relating to nuclear power and nuclear weapons, alternative energy, government surveillance and other topics related to issues close to the anti-nuclear movement of the 1980s.</td>
<td></td>
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</table>

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<tbody>
<tr>
<td></td>
<td>Ryle’s folders of newspaper cuttings, organised by subject.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Includes some manuscript drafts and a few letters.</td>
<td></td>
</tr>
</tbody>
</table>
E.160  'Civil defence'
From Acc 788/41.

E.161-E.169  'Disarmament'
Subheadings were: ‘Multilateral/Unilateral’, ‘Peace groups’, ‘Balance of power’.
9 folders.
From Acc 788/42.

E.170, E.171  'Effects of nuclear war'
2 folders.
E.171 is typescript sheets of possible UK targets entitled 'Hard luck scenario: Burst list'.
From Acc 788/42.

E.172-E.175  'Energy'
Includes commercial literature on solar heating, Ryle's manuscript notes on UK energy needs etc.
4 folders.
From Acc 788/41.

E.176  'Health effects'
From Acc 788/41.

E.177-E.180  'Nuclear war'
4 folders.
From Acc 788/41.
E.181-E.183  ‘Proliferation’
3 folders.
From Acc 788/41.

E.184-E.186  ‘Reactors & reprocessing’
Subheadings were: ‘Sizewell B’, ‘Mishaps/Leaks/Fires’, ‘Uranium sources’.
3 folders.
From Acc 788/42.

E.187  ‘Waste disposal and decommissioning’
From Acc 788/41.

E.187A  Inhaber Report 1979
Correspondence and papers critical of the Inhaber report.
Herbert Inhaber was Associate Scientific Advisor to the Atomic Energy Control Board of Canada. He was commissioned to report on ‘The Risk of Energy Production’. The report (AECB-1119) was completed in March 1978. It was unfavourable to renewable energy sources, but was widely criticised.


See also F.214-F.226.
From Acc 1183.

E.188-E.212  Reports, memoranda etc 1976-1985
From Acc 788 and Acc 1183.
Contents of folder so labelled: miscellaneous correspondence, papers etc, opposing the building of a PWR nuclear facility at Sizewell (Sizewell B).
7 folders.
From Acc 788/42.

This was published by Junction Books, 1981, with a preface by Bernard Williams.
Typescript draft sent to Ryle for comment.
6 folders.
At E.195 is annotated envelope.
From Acc 1183.

E.201, E.202  Draft of pamphlet against nuclear power by G. Morgan-Grenville  1980
Typescript with manuscript corrections and annotations.
2 folders.
From Acc 1183.

E.203-E.205  Duplicated typescript papers on nuclear warfare and nuclear energy by E. Broda  1970s, n.d.
3 folders.
At E.205 is annotated envelope.
From Acc 788/56.

E.206  ‘The quest for public acceptance of nuclear power’, lecture by Sir John Hill to Institution of Nuclear Engineers and British Nuclear Energy Society, April 1979  1979
Typescript with Ryle’s annotations.

From Acc 788/45.

E.207 Miscellaneous typescript and duplicated papers on nuclear power

Includes ‘Nuclear power: a question of morality’ by the Society of Friends’ nuclear energy study group and Ryle’s comments thereon, comments by Ryle on an article in “The Friend” on nuclear power and a reprint from the Guardian on “The war or peace plutonium puzzle”.

2 files

From Acc 1183 and Acc 1787.

E.208, E.209 Miscellaneous typescript and duplicated papers on nuclear weapons

2 folders.

From Acc 788/48 and Acc 1183.

E.210-E.212 Annotated newspaper cuttings

Miscellaneous newspaper cuttings, mostly on nuclear energy and nuclear weapons. Includes 1985 cutting annotated by Lady Ryle.

3 folders.

From Acc 788/49 and Acc 1183.

E.213-E.223 Ryle’s manuscript notes

This material includes rough drafts of possible papers, draft letters, and notes and jottings. A few letters, typescript papers etc were found with the manuscript material and have been retained here.

Separate groups of notes have been retained together.


E.218 includes ‘Unilateralism & Multilateralism’.
E.220 is draft letter to John Ryle (brother) on nuclear power, nuclear weapons and the Falklands war.

11 folders.

From Acc 788/48, Acc 788/49, Acc 788/51, Acc 788/56, Acc 788/57, Acc 788/58, Acc 1125 and Acc 1183.

E.224

Printed and photocopied background material

Some of it annotated by Ryle or by friends and colleagues.

1 box.

From Acc 1183.
SECTION F  PUBLICATIONS, F.1-F.296  1948-1986

F.1-F.207  DRAFTS

F.208-F.227  LETTERS TO THE MEDIA

F.228  OFFPRINTS

F.229-F.256  EDITORIAL CORRESPONDENCE

F.257-F.262  BOOK REVIEWS

F.263-F.296  DRAFTS BY OTHERS
In chronological order.

See also C.90, C.426, H.144, H.145, H.210, H.277, H.442, J.44.


From a folder inscribed ‘An investigation of radio-frequency radiation from the sun’ and ‘Copy no. 1’. Original typescript with manuscript insertions. Includes illustrations and copy of announcement for reading of the paper at the Royal Society, 29 January 1948 (communicated by Sir Lawrence Bragg). See also G.6.

3 folders.

From Acc 769/8 and Acc 769/25.

Copy of proofs.

From Acc 769/25.

F.5-F.7 The generation of radio-frequency radiation in the sun, Proceedings of the Royal Society, A vol. 195 (1948), 82

Early draft (annotated typescript) with manuscript note inscribed ‘12 February 1947’ and ‘submitted 1/48’ (F.5), typescript draft (F.6) and offprint (F.7).

3 folders.

From Acc 769/4 and Acc 769/8.

F.8 Radio astronomy, British Science News vol. 1 no. 11 (November 1948), 4-7

Typescript, proofs, offprint.

Note by W.T. Sullivan III states this is ‘one of the first published uses of the term “radio astronomy”.’

From Acc 769/25.

Manuscript draft (incomplete), annotated typescript, annotated proofs.

3 folders.

From Acc 769/4 and Acc 769/25.


Manuscript and typescript drafts, annotated typescript, offprint.

4 folders.

From Acc 769/4 and Acc 769/25.

F.16-F.18  Radio astronomy, for *Discovery. The Magazine of Scientific Progress* (unpublished)

Manuscript draft (dated 20 August 1949), typescript with
original illustrations. Includes letter from the editor of *Discovery* listing reasons why the paper is not suitable for the magazine. Further includes synopsis of versions offered to *Discovery* and *Physics Today*. See also J.13, J.44.

From Acc 769/8.


From Acc 769/8, Acc 769/22 and Acc 769/25.

**F.19-F.21** First draft 2 September 1949

Manuscript copy and typescript. Includes miscellaneous additional material.

3 folders.

**F.22-F.32** Extended draft 1950?

Manuscript version (F.22-F.25), annotated typescript (F.26-F.31) and 15 original illustrations (F.32). See also C.147-C.153.

11 folders.
F.33 Proofs 1950

Annotated.


From Acc 769/13.

F.34 Outline and early draft ?1950

Manuscript.

F.35-F.37 Extended draft ?1950

Manuscript version (F.35), typescript (F.36) and comments, including from J.A. Ratcliffe (F.37).

3 folders.
F.38  Proofs  1950

Annotated.

F.39  Offprint  1950

F.40, F.41  Miscellaneous notes  ?1950

Notes and measurements in B. Elsmore's hand (F.40) and Ryle's (F.41).

2 folders.


Manuscript draft, annotated typescript.

From Acc 769/8.
F.43  
[Note], *Proceedings of Observatories* vol. 112 (1952), 298-300  
1951-1952

Manuscript draft, annotated typescript, photocopy of published version.

From Acc 769/8.

F.44-F.50  
1951x1952

From Acc 769/8 and Acc 769/16.

F.44, F.45  
Early draft  
1951x1952

Manuscript. Includes lists of publications still to be written.

2 folders.

F.46-F.49  
Extended draft  
1951x1952

Manuscript version (F.46), 2 annotated typescripts (F.47,
F.48), original illustrations (F.49).

4 folders.

F.50
Offprint
1952

F.51

Manuscript outline inscribed ‘IEE survey paper’.

From Acc 769/8.

F.52
(With J.A. Ratcliffe) Radio astronomy, *Endeavour* vol. 11 (1952), 117

Typescript.

From Acc 769/8.

F.53, F.54
(With P.A.G. Scheuer) An investigation of the H II regions 1952-1953

Manuscript draft, typescript, later typescript (incomplete). Also includes manuscript draft of Ryle’s reply to referee report (identified by W.T. Sullivan III).

2 folders.

From Acc 769/8; reply to referee report from Acc 769/3.


Typescript.

From Acc 769/25.


For proofs (annotated), see G.122. For original illustrations, see K.169-K.171.

From Acc 769/26.
F.56 Notes and correspondence 1954-1955

Includes correspondence from P.A.G. Scheuer.

F.57 Draft 1954x1955

Manuscript.

F.58 Offprint 1955


2 annotated typescripts.

2 folders.

From Acc 769/9.

Radio investigations of the structure of the solar corona, *Journal of Atmospheric and Terrestrial Physics*, vol. 6 (1956), 246

Notes (marked ‘Siedentopf’), graph, first page of offprint. In this period, Ryle corresponded with H. Siedentopf re electron density in the outer corona, distribution of radi-radiation across the solar disk etc. (see J.158).

From Acc 769/16.

Radio astronomy and cosmology, *New Scientist* vol. 2 no. 4 (1957), 47-48

Annotated proofs.

From Acc 769/9.

The Mullard Radio Astronomy Observatory, *Journal of*
the Institution of Electrical Engineers vol. 6 (1960), 14

Typescript.

From Acc 769/18.

F.65


Early drafts, one manuscript, one annotated typescript.

The title varies between 'The interpretation of the observed distribution of radio stars', 'The apparent spatial distribution of radio stars at |b|>20°', 'The apparent distribution of radio stars' and 'The interpretation of the observed spatial distribution of radio stars'. See also G.65.

From 769/9.

F.66

The new Cambridge radio telescope, Nature vol. 194 (12 May 1962), 517-518

2 manuscript draft documents and proofs of article.

From Acc 769/9 and Acc 769/19.

1962

Annotated typescript, annotated proofs. See also C.182.

2 folders.

From Acc 769/9 and Acc 769/19.

F.69  Radio source observations and the application of the results in cosmology, *Radio Astronomy Today* ed. H.P. Palmer et. al. (Manchester University Press, 1963), 191

1963

Annotated typescript.

From Acc 769/19.


1966

Annotated typescript. Includes tables.
From Acc 769/19.

F.71
1965-1966

Correspondence with the editor of the journal's first special issue, 'The new universe'.

From Acc 1183.

F.72-F.74
1966x1967

Early drafts (manuscript and typescript), inscribed 'A possible method for investigating the evolutionary changes of radio galaxies' (F.72, F.73) typescript draft bearing final title (F.74).

3 folders.

From Acc 769/17 and Acc 769/19.

F.75, F.76
(With D. Downes) High resolution radio observations of an intense H II region in Cygnus X, *Astrophysical Journal*
1966-1967
vol. 148 (April 1967), L17

Correspondence (including annotated draft), bound typescript with intercalated material.

2 folders.

From Acc 769/15 and Acc 1183/24.


Annotated typescript.

From Acc 769/9.


From Acc 769/15 and Acc 769/17.

F.78 Early draft June 1967
Typescript.

F.79, F.80
Final draft 1967x1968

2 copies with different annotations.

2 folders.

F.81
Illustrations 1967x1968

Photocopies.

F.82

Annotated typescript (third draft), 26 February.

From Acc 1183.

F.83
From Acc 769/10.

F.84  

Correspondence re revised edition. Includes photocopies of Ryle’s original contribution.

F.85-F.88  

From Acc 1183.

F.85  
Early draft  
n.d.

Manuscript outline.

F.86  
Typescript  
August 1973

Annotated.
F.87, F.88  Illustrations  n.d.

Includes tables (some annotated).

2 folders.


From Acc 1183.

F.89  Early draft  1974, n.d.

Contents of an envelope inscribed ‘Polarization paper’. Manuscript and typescript draft entitled ‘Polarization of some compact radio sources’. Includes loose notes.

F.90  Further early drafts  n.d.

Several annotated typescripts, entitled ‘Polarization of some compact radio sources at 5 GHz’ and listing Odell as co-author. Includes additional manuscript pages.
F.91  ‘1st playback’  n.d.

So inscribed. Typescript entitled ‘Polarization of some compact radio sources at 5 GHz’ and listing Odell as co-author. Lightly annotated.

F.92  ‘3rd playback’  n.d.

So inscribed. Typescript entitled ‘Polarization of some compact radio sources at 5 GHz’ and listing Odell and Waggett as co-authors. Extensively annotated and with additional manuscript pages.

F.93  Miscellaneous  n.d.

Research data, calculations and jottings. Also includes manuscript ‘The 5km radio galaxy programme 1975-6’, written on the back of typescript ‘Radio astronomy in Cambridge: the next 15 years’.


From Acc 1183.
F.94, F.95  Early drafts  1974x1975

Annotated typescripts, one marked 'Probably mostly untrue' and 'May 74', the second including calculations.

2 folders.

F.96  Correspondence  1974, n.d.

Includes original scans, print-outs, photographs etc.


Contents of an envelope so inscribed. Observations and measurements. Includes graphs.

F.98  Miscellaneous  1975, n.d.

Includes observations and data print-outs.
F.99  Nuclear energy: the serious doubts that put our future at risk, *The Times* 14 December 1976, 4

Original typescript (entitled ‘Nuclear power: when are we to have the real debate?’), cover letter to the editor of *The Times*, photocopy of published article. See also E.2, E.93.

From Acc 788/44.


Manuscript draft, annotated typescript. Includes additional material.

3 folders.

From Acc 788/45 and Acc 1183.


The article drew a comment from C.F. Clement of the Atomic Energy Research Establishment Harwell (‘Wind power for the UK’, *Nature* vol. 268 (4 August 1977), 396), to which Ryle replied (*Nature* vol. 268 (11 August 1977),
From Acc 788/45, Acc 788/50-52 and Acc 1183.

F.103, F.104 Manuscript drafts n.d.

Two copies. Material at F.104 was content of an envelope.

2 folders.

F.105 Typescript draft February 1977

Includes intercalated material and original tables.

F.106 Photographs n.d.

6 photographs featuring the Cambridge wind-turbine (1 colour, 5 black & white).

F.107 Correspondence with *Nature* April 1977
Includes a much annotated advanced draft.

F.108 Final draft 1977

Lightly annotated.

F.109 Offprint 1977

Includes printed corrigendum.

F.110 ‘Less technical summary’ 17 May 1977

Typescript summary of the article.

Ryle distributed this summary to a wide circle of potential readers.

F.111 Reworked paper 1977x1984

Much annotated typescript of published version.

Ryle continued to amend this paper following its publication. See also F.172.
F.112-F.115  Correspondence arising  1977-1982

Includes correspondence with C. Sweet and Sir Kelvin Spencer re the cost of nuclear power.

4 folders.

From Acc 788/45 and Acc 1183.

(Cambridge, 1977)

Manuscript draft, copy of S. Mitton’s ‘Introduction’, comments from colleagues.

Mitton was the Editor-in-Chief.

From Acc 1183.

F.117  Comments on ‘The prospects for the generation of electricity from wind energy’, unpublished  1977
Typescript, dated 8 July 1977.


From Acc 1183.

F.118, F.119


Copy of original paper and offprint (F.118), and the following typescripts: 'Wind turbine research at the Cavendish Laboratory, Cambridge' (n.d.), 'Wind energy in Cambridge (5 April 1977) and 'Wind energy research and development'.

2 folders.

From Acc 788/51 and Acc 1183.

F.120


Correspondence with *Nature* re a response to paper published 5 October 1978 (see F.118, F.119), draft reply to response, proof copy and offprint of both.
From Acc 1183.

F.121, F.122

Save energy and harness nature power, *Observer* 2 March 1980 1977x1980

Copy of article and correspondence arising.

2 folders.

This was the shortened form of an essay entitled 'The UK energy problem'. The longer version appeared *Resurgence* no. 80 (May-June 1980), 6-9, with the title 'The energy problem'. See F.123-F.132.

From Acc 788/45 and Acc 788/52.

F.123-F.132


This was a special issue of *Resurgence* on 'The energy problem'. For the shortened form, see 'Save energy and harness nature power', *Observer* 2 March 1980, 10 (F.121, F.122).

From Acc 788/50, Acc 788/58 and Acc 1183.
F.123-F.125 Early drafts n.d.

3 attempts, untitled, manuscript.

3 folders.

From Acc 788/58 and Acc 1183.

F.126 Typescript draft n.d.

Not annotated.

From Acc 788/50.

F.127, F.128 Extended drafts n.d.

Part manuscript, part annotated typescript. F.127 was originally in an envelope postmarked 13 December 1979. F.128 is inscribed 'The UK energy problem' and includes illustrations.

2 folders.


From Acc 788/50.

F.130  Copy of special issue of Resurgence  May-June 1980

F.131, F.132  Correspondence arising  1980

Includes correspondence with the nuclear scientist W.B. Lewis.

2 folders.

From Acc 788/45, Acc 788/58 and Acc 1183.


Ryle’s pamphlet was published in March 1981 and
reprinted (with a glossary) a month later. A second edition, containing an expanded section on 'The nuclear industry', corrections, updated figures and an appendix summarizing recent developments, appeared in September 1981. See also E.16-E.20.

F.133-F.135 Reading matter prompting Ryle to write 1980-1982

Contents of an envelope, inscribed by Ryle's wife Rowena, 'Lord Zuckerman's article - which triggered Martin to write to the Menard Press/Anthony Rudolf in the 1st instance' and 'Other - Christian - magazines which moved & encouraged him deeply at the time'.

Lord Zuckerman's pamphlet *Science advisers, scientific advisers and nuclear weapons* was published by the Menard Press in 1980.

3 folders.

From Acc 788/53.

F.136 Early correspondence with the Menard Press 1980, n.d.

From Acc 788/53.

F.137, F.138 Early draft 1980
Typescript, with extensive comments by Sir Kelvin Spencer and ‘Robert’ (F.138).

2 folders.

From Acc 788/48 and Acc 788/56.

F.139, F.140  Updated draft  1980x1981

Annotated typescript.

2 folders.

F.141  Additional notes and information  1981

From Acc 788/56.

F.142  Announcement of the pamphlet  1981

With a letter from A. Rudolf on verso.

Originally at 788/56.
F.143-F.147  Copies of the pamphlet  1981

First printing (circulated at the ?Cavendish Laboratory), second printing, much annotated copy with arrangements for third printing or second edition, proofs of third printing, and copy of second edition.

5 folders.

From Acc 788/48, Acc 1128/3, Acc 1183 and Acc 1200.


In chronological order. Includes correspondence with B.V. Bowden and Sir Sam Edwards.

9 folders.

From Acc 788/48, Acc 788/56, Acc 1183 and Acc 1200.


Various drafts (manuscript and typescript) of the expanded 4th section on 'The nuclear industry'. Also
includes note and drafts of an essay entitled ‘Atoms for peace: atoms for war?’ either written or recycled in the summer of 1981 and possibly intended for publication in the New Scientist.

From Acc 788/48-49 and 788/56.


Includes manuscript draft (F.157, F.158), typescripts (F.159, F.160), comments by H. Clari (F.161) and draft ‘Other consequences of military-industrial complex’ (F.162).

6 folders.


Annotated typescript (F.163), correspondence (F.164).

2 folders.

F.165-F.167  French  n.d.

Typescript.

3 folders.

From Acc 788/49.


Annotated typescript, covering letter.

3 folders.

From Acc 788/48; letter from Acc 769/3.


Includes correspondence arising.

From Acc 1183.

Offprint and letter from the publisher. In its original form, this article appeared in the magazine *Nature* in 1977 (see F.103-F.114).

From Acc 788/53.

F.173-F.177  Is there a case for nuclear power?, *Electronics and Power. Journal of the Institution of Electrical Engineers* vol. 28 no. 7/8 (July/August 1982), 496-500

Also published by the Menard Press in 1982. See E.23.

From Acc 788/44, Acc 788/53 and Acc 1183.

F.173  Early draft  n.d.

Annotated typescript, loose notes.

F.174  Extended draft  n.d.

Part manuscript, part annotated typescript.
F.175  Final draft  n.d.

Typescript.

F.176  Original article  1982

In colour.

F.177  Offprint  1982

With a typescript covering letter for mass circulation.

F.178, F.179  The strange birth of the new missiles, Observer (6 March 1983)  1983

Manuscript drafts, annotated typescripts. F.179 is correspondence, including with the Ministry of Defence.

2 folders.
From Acc 788/48, Acc 788/49 and Acc 788/53.

F.180

Ideals that have no place in the age of secrecy, *Guardian* (23 April 1984)  
April 1984

Manuscript draft and typescript, both dated 3 April 1984 and entitled '1984 and all that'. See also E.27.

From Acc 1183.

F.181

The challenge of mass destruction, *Guardian* (12 July 1984), 13  
July 1984

Manuscript draft and annotated typescript, both entitled 'Star wars - fact or fiction?'. Also includes copy of published article.

From Acc 1183.

F.182

From radar to star wars - scientists and the arms race, *Sanity* (August 1984), 15  
1984

Annotated typescript, copy of published article. Also includes correspondence.

The article used extracts from a recent article of Ryle’s in
the _Guardian_ (see F.181). _Sanity_ was the magazine of the Campaign for Nuclear Disarmament (CND).

From Acc 1183.

**F.183** [Dear Professor Chagas] _Resurgence_ No. 112 1985-1986 (September-October 1985), 30-31

Manuscript draft, annotated typescript and copy of published version. Also includes copy of _Electronics for peace newsletter_ No. 9 (January 1986), where the letter was reproduced again. It was also published in the pamphlet _Martin Ryle’s Letter_ (Menard Press, London, 1985) (see A.72-A.85).

From Acc 788/49 and Acc 1128/3.

**F.184-F.207** Undated drafts 1949x1984

Drafts on aspects of radio-astronomy are at F.184-F.202; drafts on energy and peace issues at F.203-F.207.

24 folders.

From Acc 769/4, Acc 769/8-9, Acc 769/15-16, Acc 769/18-19, Acc 788/57 and Acc 1183.
LETTERS TO THE MEDIA

In chronological order. Manuscript drafts, typescripts, published versions and press cuttings.

See also E.1-E.33.

Material from Acc 788/45, Acc 788/47-50, Acc 788/52-53, Acc 1128 and Acc 1183.

1970s

Covers the discovery of pulsars, future energy supply, power by windmills, the 1979 accident at the nuclear power plant near Harrisburg, Pennsylvania, US, etc.

6 folders.

1980s

Covers wind energy, the destructive force of SS-9 missiles, energy conservation, criticism of the Inhaber report (see also E.187A), the Falklands conflict (F.218-F.220), how the fate of Korean Air Lines Flight 007 could
have been avoided (F.225), etc.

13 folders.

F.227
Undated
1975x1984

Covers discussions between the USA and the USSR over the introduction of Pershing II into some European NATO countries, and energy supply.

F.228
OFFPRINTS
1955-1979

6 items only. For offprints retained with draft material see F.1-F.207.

From Acc 769/16 and Acc 1183.

F.229-F.256
EDITORIAL CORRESPONDENCE
1962-1982
From Acc 769 and Acc 1128.

F.229-F.255 Refereeing 1962-1978

In original chronological order. Includes referee’s reports by colleagues, occasional invitations to review books and other material.

Not indexed.

27 folders.

Closed until 2029.

F.256 Other 1967-1982

Includes invitations to join the editorial board of journals, correspondence re the composition of special issues, requests for articles etc.

F.257-F.262 BOOK REVIEWS 1948-1980
In chronological order.

<table>
<thead>
<tr>
<th>F.257-F.261</th>
<th>Reviews 1948-1952</th>
<th>1948x1952</th>
</tr>
</thead>
</table>


5 folders.

From Acc 769/25.


Proof, published review and typescript for general circulation. Also includes correspondence.

From Acc 1183.

F.263
L. Biermann, Über den Ursprung der Magnetfelder auf Sternen und im interstellaren Raum [On the origin of magnetic fields of stars and in interstellar space]

Typescript (in German), with covering note by H. von Klüber.

From Acc 769/16.

F.264
H.G. Booker, Atmospheric scattering of radio waves, with an application to radio astronomy

Typescript.

From Acc 769/15.

F.265
K.E. Machin, The distribution of radiation across the solar disc at a frequency of 81.5 Mc/s

Typescript.

1949x1950

?1950

1951
From Acc 769/8.

F.266  F.G. Smith, The accurate determination of the position of four intense radio stars  1950x1951
Manuscript draft.

From Acc 769/8.

F.267  F.G. Smith, Ionospheric refraction of 81.5/s radio waves from radio stars  ?1952
Typescript with Ryle’s annotations.

From Acc 769/8.

F.268, F.269  F.G. Smith, The measurement of the angular diameter of radio stars  1952
Annotated typescripts, 2 copies.

2 folders.
F.270  C.H. Little and A. Maxwell, Scintillation of radio stars during aurorae and magnetic storms  ?1952
Typescript and original illustrations.

From Acc 769/8.

F.271  A. Hewish, The scintillation of radio stars  1952x1953
Typescript with manuscript insertions and covering note. Includes original figures.

From Acc 769/16.


From Acc 769/16.
From Acc 769/16.

F.273  [Anon.], Theories of the origin of radio emission  ?1954

Typecript.

From Acc 769/8.

F.274  J.E. Baldwin, Radio emission from the remnants of the supernovae of 1572 and 1604  ?1957

Typescript with manuscript insertions. Includes original graphs.

From Acc 769/19.

F.275  R.C. Conway, The parameter amplifier  1958

Typecript.

From Acc 769/18.
<table>
<thead>
<tr>
<th>F.276</th>
<th>F. Hoyle, Radio source problems</th>
<th>1958x1959</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Typescript. Annotations by Ryle on verso of last page.</td>
<td></td>
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<tr>
<td></td>
<td>From Acc 769/18.</td>
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</tr>
<tr>
<td>F.277</td>
<td>F.G. Smith, Radio astronomical observations from a scout satellite</td>
<td>?1959</td>
</tr>
<tr>
<td></td>
<td>Typescript.</td>
<td></td>
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<tr>
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<td>From Acc 769/18.</td>
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<tr>
<td>F.278</td>
<td>H.E.C. Tunmer, On the dimensions, spatial density and power of the extragalactic radio sources</td>
<td>?1959</td>
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<tr>
<td></td>
<td>From Acc 769/18.</td>
<td></td>
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<tr>
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<td>--------------------------------</td>
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</tr>
<tr>
<td>F.279, F.280</td>
<td>R.J. Long and D.R. Marks, The relation between the optical and radio magnitudes of galaxies</td>
<td>?1960</td>
</tr>
</tbody>
</table>
2 typescripts (the earlier one with Ryle’s corrections).

2 folders.

From Acc 769/18.

F.281 C.H. Costain and F.G. Smith, The radio telescope for 7.9 metres wavelength at the Mullard observatory

Typescript.

From 769/18.

F.282 [Anon.], The luminosity distribution and evolution of radio galaxies

Typescript.

From Acc 769/19.

F.283 [Anon.], begins, ‘The two regions found by Dibai and Pronik thus give some support to the model proposed and suggest that the kinetic energy of the gas is some 10% of that of the energetic particles present in each region ...’

1967
Typescript (incomplete).

From Acc 769/19.

F.284 A.H. Brindle, 10.03 MHz observations of HII in Cassiopeia and Camelopardus

Typescript. Includes illustration.

From Acc 769/19.

F.285 D.J. Holden, The galactic plane near 1° = 205°

Typescript, with a covering note stating ‘M.R. - Final draft’.

From Acc 769/19.

F.286 C.H. Costain, Crystal diode switches

Typescript with extensive manuscript insertions (circuit diagrams).

n.d.
From Acc 769/19.

F.287  [Anon.], Polarization of radio sources  18 February 1977

Manuscript draft, possibly by J.E. Baldwin or J.R. Shakeshaft.

From Acc 1183.


Typescripts of various chapters, circulars re meetings of contributors, notes.

Ryle contributed to this volume. It has not been possible though to establish the nature and extent of his contributions from the extant drafts.

See also E.125.

From Acc 788/55.

F.288  Meeting to discuss ch. 8, 'Alternatives'  September 1981
Typescript, covering letter.

F.289  Meeting to discuss the structure of the book  September
       1981

Typescript of overview (2 versions), covering letter.

F.290  'General introduction'  1981x1983

Typescript.


Typescript.

2 folders.

F.293  'Four minutes to midnight'  1981x1983

Typescript. From an envelope inscribed ‘Nick
F.294  List of contributors  1981x1983

Typescript of an early version.


Notes. Also includes a letter from *The Times re* the numbers of tanks in the Warsaw Pact countries.

F.296  [Anon.], Structure of the complex radio sources 3C 46, 3C 66, 3C 129, 3C 465  n.d.

Manuscript draft.

From Acc 769/19.
<table>
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<th>G.1-G.131</th>
<th>‘TALKS BY RYLE’</th>
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<tr>
<td>G.226-G.230</td>
<td>INVITATIONS DECLINED</td>
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<tr>
<td>G.231-G.235</td>
<td>LECTURES BY OTHERS</td>
</tr>
</tbody>
</table>

From a series of 4 large folders assembled by the radio astronomer and historian W.T. Sullivan III (henceforth ‘WTS’). Manuscript unless stated otherwise. In chronological order to G.101, thereafter undated material in alphabetical order.

From Acc 769/4, Acc 769/9 and Acc 769/10.

G.1  'Cosmic noise' [August 1946]  1946

Draft, dated by WTS.


2 drafts, one of them dated.

G.3  'Pulse communications', Cambridge University Wireless Society, 10 February 1947  1947

Draft.
G.4  'Wireless radiation from the sun', Cavendish Physical Society, Cambridge, 12 March 1947

Draft.

G.5  'Radiation from the sun at radio wavelengths', Manchester Physical Society, 13 November 1947

Draft.


2 copies of typescript (one annotated) of paper co-authored with D.D. Vonberg and delivered by Sir Lawrence Bragg. See also F.1-F.3.

G.7  'Some observations of solar radiation on wavelengths of 1.7 and 3.8 metres', Institution of Electrical Engineers (IEE) Conference on Radio Noise, ?London, 8 April 1948

Annotated typescript.
G.8  
‘Radio signals from the sun & stars’, Radio Society of Great Britain, 9 April 1948

Draft.

G.9  
‘The measurement of small radio frequency noise powers’ [21 April 1948]

Typescript ‘simplified description for lay press’ on unspecified occasion.

G.10  
‘The generation of radio frequency radiation in the sun’, Royal Astronomical Society (Geophysical Discussion), London, 23 April 1948

Annotated typescript. Attached note (by WTS) states: ‘one of first uses of the term ‘radio astronomy’.’ Further includes typescript ‘Note for The Observatory’.

G.11  
‘Talk on visit to Stockholm’ and ‘Colloquium - 5.8.48’

Draft.
G.12 'Radio noise from the sun and stars', Cambridge University Wireless Society, 11 October 1948

Poster advertising the event and a visit to the Cavendish Radio Research Field Laboratory.

G.13 'Recent developments in radio astronomy' and 'Physics Club - 4.xii.48'

Draft.

G.14 'Radio frequency radiation from the sun' and 'Dundee'

Typescript.

G.15 'Evidence for the stellar origin of cosmic rays', Manchester Physical Society, 2?February 1949

Draft.

G.16 'Recent experiments in radio astronomy', Cavendish Physical Society, Cambridge, 12 March 1949
Draft.

G.17


Draft, last page missing.

G.18

Untitled, ‘?PEFFS & ?PROMINENCES - 14.5.49’

Notes for a presentation on sunspots.

G.19

'Astronomy at radio wavelengths’ and ‘B’ham: Phys. Soc 13.7.49’

Draft of lecture to the Poynting Physical Society.

G.20

‘Stellar origin of cosmic rays’, Physical Society, London, 2 December 1949

Includes printed announcement.
G.21  'Cosmic noise and cosmic rays', 14 February 1950  
Draft.

G.22  Radio astronomy, Emmanuel College Natural Science Club, Cambridge 22 February 1950  
Draft.

G.23  'Radio astronomy' and 'AERE Colloq. 27.2.50'  
Draft.

Draft of presentation plus draft note for Observatory.

G.25  'Radio astronomy I: experimental techniques and solar observations', Institut d'Astrophysique de Paris, France, 2 June 1950  
1950

G.26

‘Radio astronomy II: observations of galactic sources & theoretical study of results’, Institut d’Astrophysique de Paris, France, 3 June 1950


G.27


Draft. Also given at the Institute of Physics, London, on 14 November.

G.28

‘Radio astronomy’, Imperial College, London, 8 November 1950

Draft.

G.29

‘Radio astronomy’, Stokes Society Pembroke College, 1951
Cambridge, 24 January 1951

Draft. Also given at Birkbeck College, London, on 14 March.

G.30  Commentary on an informal lecture on radio astronomy by A.C.B. Lovell, IEE Radio Section, 19 March 1951 1951

Draft. Includes printed synopsis of Lovell’s presentation.


Draft.

G.32  Untitled, Southampton Physical Society, 30 December 1951 1951

Draft.

G.33  Untitled, Cambridge Engineering Society, 5 February 1952 1952
Draft.

G.34  ‘Present objectives in radio astronomy’ and ‘Colloquium - 21.2.52’  1952

Draft. No further information.

G.35  ‘The determination of the accurate positions & angular diameter of two intense radio stars’, 8th General Assembly of the International Astronomical Union (IAU), Rome, Italy, 4-13 September 1952  1952

Draft. Identified by WTS. See also H.134-H.147.


Draft.

G.37  Untitled, Colloquium of the Radio Astronomy Group, Cambridge, 16 October 1952  1952

Draft. Identified by WTS.
G.38  'Recent results in radio astronomy', Kapitza Club, Cambridge, October 1952

Draft. Date estimate by WTS.

G.39  ['Follow up Prof. Bragg’s definition of radio telescope by considering 3 parts:- 1, aerial; 2, receiver; 3, recorder], Department of Scientific and Industrial Research (DSIR) Committee, London, ?1952

Draft. Date estimate by WTS.

G.40  ‘Exploring the universe by radio’

Typescript, date estimate by WTS. Possibly not a lecture.

G.41  ‘Radio stars’, University College London, ?1952

Draft.

G.42  ‘Radio stars’, Cambridge Philosophical Society, 16 February 1953
2 drafts.

G.43 'Precise positions of radio stars', USA, April-May 1952 1953

Typescript, probably given at a symposium at the National Academy of Sciences. Includes notes inscribed 'American trip (April-May [19]53'.

G.44 'Recent advances in radio astronomy', Cavendish Physical Society, 14 October 1953 1953

Draft.

G.45 'Radio astronomy', ASRE 1953

Draft. No further details.


Draft.
G.47  ‘Radio astronomy’  1954x1955

Draft. No further details. Date estimate by WTS.

G.48  ‘Notes for lecture on navigation’  1954x1955

Draft. No further details. Date estimate by WTS.


Draft.


Draft.

Perne Club was Peterhouse’s society for the reading and discussing of papers on any subject.

G.52

‘Our first introduction to the space age’, October-November 1957

Draft of lecture in response to Sputnik launch. No further details. See also G.148.

G.53

‘[The Mullard radio astronomy observatory’], Bruce Preller Lecture, Royal Society of Edinburgh, 2 February 1958

Draft.

G.54, G.55


Annotated typescript. Also includes an earlier manuscript draft. See also G.150.

2 folders.

G.56

‘What radio astronomy is’, Inter-services course, 23 September 1958

1957

1958

1958

1958
'Exploring the universe with radio waves’ and ‘Arts students 28.2.59’

Draft. No further details. Possible delivered as part of a course of science lectures for Cambridge arts students (see C.568-C.570). See also G.104.

'Radio astronomy’ and ‘(School teachers) April 8th [19]59’

Draft. No further details.

‘Life on other worlds?’

Draft. No further details. Date estimate by WTS.

‘Ambitious exp[erimen]t - concerned with problem of Universe as a Whole! Story starting in 1920 …’

Notes for a talk on radio astronomy and cosmology. No further details. Date estimate by WTS.
G.61 'The discovery of radio stars' ?1959

Typescript. No further details. Date estimate by WTS.


Draft.

G.63 Untitled, Radio Society of Great Britain, 17 September 1960 1960

Draft. No further details.

G.64 'Radio astronomy', Cambridge University Astronomical Society, 5 October 1960 1960

Draft.


Duplicate. Includes copy of a letter from WTS to Lord
Rothschild indicating that the original Mss is at Trinity College, Cambridge.

G.66

'Recent work at the Mullard Observatory', National Radio Astronomy Observatory, Green Bank, West Virginia, USA, 7 August 1961

Draft.

G.67

'The ‘radio luminosity function’ and the number-flux density relationship for the discrete sources’, 11th General Assembly of the IAU, Berkeley, California, USA, 15-24 August 1961

Draft, identified by WTS. Includes manuscript comment by Ryle at 15th IAU Symposium, Santa Barbara, USA, 10-12 August 1961. See H.277.

G.68

'Radio astronomy and cosmology', University of British Columbia, Canada, 25 August 1961

Draft. Further inscribed ‘NRAO 8.8.61’.

G.69

'Present radio astronomy programme' and '17.10.61'

Draft. No further details.

Draft.


Draft, identified by WTS. See also G.159.


Draft.


Draft. No further details.

G.74-G.76  'Radio telescopes', Guthrie Lecture, University of Keele, 1964-1965
Staffs, 1 October 1964

Draft (‘The new Cambridge radio telescope’), annotated typescript, offprint.

3 folders.

G.77 Untitled, Observatory Club, ?Cambridge, 10 May 1965 1965

Draft. No further details.


Draft.


Draft.


1965
1965

2 annotated typescripts, abstracts of lectures in the series, list of demonstrations for lectures 1, 5 and 6. For lecture 6, ‘Cosmology’, see G.168.

3 folders.

This was the 5th in a series of 6 lectures. Ryle’s fellow lecturers were A.C.B. Lovell, F.G. Smith and A. Hewish.

G.83 'Radio galaxies & quasars' and ‘1-10-66’ 1966

Draft. No further details.


3 typescripts, the earlier 2 annotated.

3 folders.


Typescript.

Draft.

G.89-G.91  'Radio galaxies and quasars', 13th General Assembly of the IAU Joint Discussion, Prague, Czechoslovakia, 22-31 August 1967

3 typescripts, the earlier 2 annotated. See also H.285-H.287, J.290.

3 folders.

G.92  'Radio galaxies and quasars', Sussex, 10 October 1967.

Draft.

Also presented to the Cambridge University Astronomical Society the next day.

G.93  Untitled, Royal Astronomical Society, London, 8 December 1867
Typescript.

G.94  'The limiting resolving power of a radio telescope', 9 March 1968  1968

Typescript. Possibly not a lecture.


3 folders.


Manuscript draft and annotated typescript.

2 folders.
G.100  ['Pulsar talk to Trinity'], Trinity College, Cambridge, 21 January 1971  1970-1971

Draft, also inscribed 'Ten million tons a teaspoonful'.


Draft.

G.102  'Aerial synthesis'  n.d.

Draft.

G.103  'The evolution of QSS and radio galaxies'  n.d.

Annotated typescript.

G.104  'Exploring the universe with radio waves'  n.d.
<table>
<thead>
<tr>
<th>G.105</th>
<th>‘Large radiotelescopes’ and ‘?? Eng. - Edinburgh’</th>
<th>n.d.</th>
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<tr>
<td>G.106</td>
<td>‘Notes on radio star programme, &amp; the design of a larger instrument’</td>
<td>n.d.</td>
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<tr>
<td>G.107</td>
<td>‘Quarks &amp; quasars’</td>
<td>n.d.</td>
</tr>
</tbody>
</table>
G.110  ‘Radio astronomy & cosmology’ and ‘Bondi colloquium, Clarendon colloquium, R.O. Edin.’”
Draft.

G.111  ‘Radio astronomy & cosmology’ and ‘Cavendish Physical Society, R.O. Edin.’”
Draft.

G.112  ‘Radio galaxies’
Draft.

G.113  ‘Radio galaxies & cosmology’ and ‘Herstmonceux’
Draft.

G.114  ‘Radio galaxies, quasars & the exploration of the universe’
<table>
<thead>
<tr>
<th>G.115</th>
<th>‘Radio stars’</th>
<th>n.d.</th>
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Draft.

<table>
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<tr>
<th>G.116</th>
<th>‘Radio telescopes’</th>
<th>n.d.</th>
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</thead>
</table>

Draft (ink and red ballpoint pen).

<table>
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<tr>
<th>G.117</th>
<th>‘Radio telescopes’</th>
<th>n.d.</th>
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Draft (red ballpoint pen).

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<th>G.118</th>
<th>‘Synthesis of large ?antennae’</th>
<th>n.d.</th>
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Draft.

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<th>G.119</th>
<th>‘Synthesis of large radio telescopes’</th>
<th>n.d.</th>
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</table>
Draft.

G.120  ‘Tizard Lecture’

Draft.

G.121  ‘Work of the Mullard Observatory’

Draft.

G.122  Untitled, Observatory Club, 3 June


G.123-G.131  Miscellaneous

Drafts and typescripts.

9 folders.

Assembled from loose material. In chronological order to G.210, thereafter undated material in alphabetical order.

See also D.125.

G.132  'Records of solar radiation on radio wavelengths' (with D.D. Vonberg), Royal Society Conversazione, 29 May 1947  1947

Copy of the catalogue describing the exhibits on which demonstrations at the Conversazione were based.

From Acc 769/16.

G.133  '[Visit to Swedish institutions]', July 1948  1948

Manuscript notes.

From Acc 769/16.
G.134-G.141  'Les radio-sources ponctuelles de la galaxie: une nouvelle sorte d'étoiles', Institut d'Astrophysique de Paris, France, 3 June 1950

Duplicated typescript. French translation (edited and annotated by V. Kourganoff) of a lecture previously announced under the title 'L'observation des radio-sources de la voie lactée' (see G.26).

Item V (G.138) of a set distributed by Kourganoff as 'Quelques documents sur la matière interstellaire, la polarisation du rayonnement des étoiles lointaines, et les radio-sources ponctuelles de la galaxie ... d'après les Conférences faites par V. Kourganoff et par Dr M. Ryle'.

8 folders.

From Acc 769/20.

G.142  Broadcast, 7 August 1952  1952

Correspondence.

From Acc 788/50.

G.143, G.144  Symposium on Radio Astronomy, Jodrell Bank Experimental Station, University of Manchester, 13-15 July 1953  1953, 1957
Copy of provisional programme, spiral bound notebook including notes on the symposium and Ryle’s own presentation. Used also for notes of lectures by others in 1957 etc.

2 folders.

From Acc 769/14 and Acc 769/16.

G.145 Institute of Radio Engineers Convention 1954

Spiral bound notebook inscribed ‘M. Ryle, Cavendish Laboratory, Cambridge, England’. Used from front for notes on an international meeting involving J.L. Pawsey, J.F. Denisse, A.C.B. Lovell etc. Also used from the back for notes on ‘Radio telescope & survey’.

From Acc 1128/1.


Typescript abstract.

From Acc 769/16.
G.147 'The Cambridge survey of radio stars and its cosmological implications' (with J.E. Baldwin and J.R. Shakeshaft), Royal Society Conversazione, 23 June 1955

Copy of the catalogue describing the exhibits on which demonstrations at the Conversazione were based.

From Acc 769/16.

G.148 Broadcast on the Sputnik, ?11 October 1957

Correspondence. See also G.52.

From Acc 769/14.

G.149 'Tracking the satellite', Kapitza Club, Cambridge, 29 October 1957

Invitation card and heavily annotated typescript with manuscript sheets intercalated. Left in original order.

Ryle appears to have recycled the script of another presentation here.

From Acc 769/17.
M. Ryle  
NCUACS 176/7/09  

G.150  
1958, n.d.  
Published version of the lecture with intercalated material.  
See also G.54, G.55.  

From Acc 769/18.  

G.151  
Broadcast, BBC Programme ‘With Europe in view’, 7 October 1959  
1959  
Correspondence.  

From Acc 1183.  

G.152  
‘The unseen universe’, BBC TV Series Eye on Research, 5 April 1960  
1960  
Script for programme featuring also R. Baxter (interviewer) and Ryle’s colleagues F.G. Smith, A. Hewish and D.W. Dewhirst. First programme in a series of nine, describing ‘the work of Fellows of the Royal Society in its Tercentenary Year’ (from the back of photographs at K.115-K.131.  

From Acc 1183.
G.153  'Radio stars', [pi squared ?], 24 May 1960  
Manuscript draft. No further details

From Acc 769/19.

G.154  'Radio stars and cosmology', Ray Club, 27 May 1960  
Typescript notes, correspondence. See also H.417, H.418.

From Acc 1183.

G.155  'Radio ast[ronomy]', Cambridge University Wireless Society, 11 October 1960  
Manuscript draft.

From Acc 769/19.


1960
1960
1960
1960
1960
1961
Summary of the lecture, as published in the *Bulletin* of the Philosophy of Science Group of the Newman Association.

From Acc 769/18.

G.157  
‘Radio astronomy and cosmology’, Baird Memorial Lecture, Royal College of Science and Technology, Glasgow, 7 June 1961  
1961, n.d.

Press coverage. Includes a partial offprint (annotated) that may originate in the occasion, continued as a manuscript draft.

From Acc 769/9 and Acc 788/61.

G.158  
‘Radio astronomy and cosmology’  
?1961

Typescript.

From Acc 769/18.

G.159  
OECD Symposium on Large Antennae for Radioastronomy, Paris, France, 12-14 December 1961  
1961

Spiral-bound notebook, red, inscribed ‘Benelux Paris Dec. 1961’ on front cover. Used for notes during the meeting.
For Ryle’s talk on the occasion, see G.71.

From Acc 769/37.


Manuscript draft. Also includes manuscript draft of another lecture, ‘178 Mc/s synthesis results’, likewise given at this summer school.

From Acc 769/19.

G.161  14th General Assembly of the International Union of Radio Science (URSI), Tokyo, Japan, 9-20 September 1963

Spiral-bound notebook, red, inscribed ‘URSI-Tokyo 1963’ on front cover. Used for notes during the meeting. For Ryle’s lecture to URSI Commission V on the occasion, see H.387.

From Acc 769/37.

G.162  ‘Giant radio telescope’, evening lecture
Typescript, dated by WTS.

From Acc 769/17.

G.163

'The contamination of the earth’s environment', Eranus Club, Cambridge, 25 February 1964

Manuscript draft, correspondence. Covers issue of atmospheric pollution on example of US experiments including the high altitude nuclear test in July 1962 (see H.436-H.443).

From Acc 1125 and Acc 1183.

G.164-G.166

'Radio galaxies'

Annotated typescript (marked ‘draft’). No further details.

Folder also includes a later version, likewise an annotated typescript.

3 folders.

From Acc 769/19.
G.167 Untitled, Comberton Village College, 12 November 1965 1965

Manuscript draft.

From Acc 769/17.


Annotated typescript, inscribed ‘Also City University I, Oct [19]68’. Includes correspondence and a typescript ‘Notes on specific demonstration models’.

For other parts of the lectures, see G.80-G.82.

From Acc 1183.


Draft.

From Acc 769/17.
Draft press release from the following day, announcing that Ryle had ‘described the first deep space survey observations made with the 1 mile radio telescope …’.

From Acc 769/17.

Manuscript draft. Also includes correspondence and flyer for the lecture.

3 folders.

From Acc 788/50, Acc 1125 and Acc 1183.
of Electrical Engineers, London, 6-8 June 1966

Includes papers of the organizing committee, correspondence and provisional programme. A manuscript draft of Ryle's paper is at G.177.

This was a joint conference of the Electronics Division of the Institution of Electrical Engineers, the Institution of Electronic and Radio Engineers, the Institution of Mechanical Engineers, the Institution of Structural Engineers and the Institute of Electrical and Electronics Engineers.

Ryle was a member of the organizing committee and also served as Rapporteur for the session 1 on 'Electrical design'.

5 folders.

From Acc 769/15, Acc 769/17 and Acc 1183.

Spiral-bound notebook, red, inscribed 'Munich' on front cover. Used for notes during the meeting. Also includes 3 monochrome photographs from the occasion, featuring Ryle and other participants in the meeting. Further includes typescript of Ryle's paper (with G.H. MacDonald and A.C. Neville), 'The structure of the radio sources 3C 46, 66, 129 & 465', which appeared in Nature just after the end of the conference.

For the British National Report to URSI Commission V,
see H.388.

3 folders.

From Acc 769/37 and Acc 1183.

G.182  ‘Exploring the universe’, Fison Memorial Lecture, Guy’s Hospital Medical School, London, 23 May 1967

Correspondence, heavily annotated typescript.

From Acc 788/49.

G.183  13th General Assembly of the IAU, Prague, Czechoslovakia, 22-31 August 1967

Spiral-bound notebook, red, inscribed ‘Prague’ on front cover. Used for notes during the meeting. Includes Ryle’s personal conference schedule inside front cover.

Ryle delivered a discourse on radio observations on the occasion.

For other papers at the conference, see H.163-H.181.

From Acc 769/37.
G.184  Conference on the Physics of Quasars, University of Manchester, 5-7 September 1967  1966

Correspondence.

Ryle advised at the planning stage of this meeting but it is uncertain whether he attended in the end. He had been asked to introduce a session on radio observations.

From Acc 1183.


Correspondence.

From Acc 1183.


Minutes of the IEE Council meeting during which Ryle was asked to give the lecture, first draft of the lecture (annotated typescript), ?final version (likewise annotated typescript.
2 folders.

From Acc 769/15, Acc 769/19 and Acc 1183.

G.188


Manuscript draft. Includes graphs.

From Acc 1183.

G.189, G.190


Annotated typescript. Also includes spiral-bound notebook, red, inscribed ‘Herstmonceux 1968’ on front cover. Used for notes during the meeting.

2 folders.

From Acc 769/37 and Acc 1183.

G.191, G.192

‘The exploration of the universe’, The Gresham Lectures 1968-69, pt. 1, City University, London, 8, 15 and 22
October 1968

2 manuscript drafts of lecture 3. See also G.95-G.97, G.168, G.194.

2 folders.

From Acc 1183.

G.193

'1 mile R-T' and '1-4-69' 1969

Manuscript draft, no further details.

From Acc 1183.

G.194

'Celestial physical laboratories', The Gresham Lectures 1968-69, pt. 2, City University, London, 6, 13, and 20 May 1969

Correspondence, abstract. See also G.95-G.97, G.168, G.191, G.192.

From Acc 1183.
G.195-G.204 'Energy problems in extra-galactic nebulae', 1970

From Acc 1183.

G.195-G.197 Outline 1970
Manuscript draft ('Possible contents of a miserable lec[ure] to be given to the RAS'), commentary from colleagues, especially M.S. Longair.

Found intercalated with copy of manuscript 'The nuclei of galaxies' by G.R. Burbidge.

3 folders.

G.198-G.201 Drafts 1970
Manuscript early draft, with additional notes (G.198); typescript early draft by ?Longair (G.199); annotated typescript draft by Ryle with additional notes (G.200); and Longair’s manuscript comments (G.201).

4 folders.

G.202-G.204 Final version 1970
Manuscript copy, typescript for publication, suggested references.

3 folders.

G.205  ‘Looking with new eyes’, BBC Radio 3 Lecture Series
Cosmology Now!, 3 April 1972

Transcript of Ryle’s broadcast. Includes correspondence re American, Italian and Japanese editions of the book based on the series.

From Acc 1183.

G.206  ‘The 5 km radio telescope’, Royal Astronomical Society,
London, 10 November 1972

Annotated typescript.

From Acc 769/19.

G.207  ‘The value of astronomy’, meeting, 9 February 1973

1972, 1976

1972
Annotated typescript.

From Acc 769/19.

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<td>Manuscript notes. Further inscribed ‘Radio Astronomy Theoretical Students discussion group’ (authority unclear - possibly handwriting of Rowena Ryle).</td>
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| G.211       | ‘Arrays & processing problems in radio ast[ronomy]’                              | n.d. |
Manuscript draft.

From Acc 769/17.

G.212  'Astrometry with the 5 km radio telescope'  n.d.

Manuscript draft.

From Acc 769/19.

G.213  'Astronomy & the physical sciences'  n.d.

Manuscript outline.

From Acc 769/19.

G.214  'Bare bones of e-e theory of radio noise'  n.d.

Typescript, possibly not a lecture.

From Acc 769/19.
G.215, G.216  'Cosmology'  n.d.

2 annotated typescripts, further marked ‘Lecture 5’.

2 folders.

From Acc 769/18 and Acc 769/19.

G.217  'The evidence for the existence of a new class of galactic radio source'  n.d.

Manuscript draft, possibly not a lecture.

From Acc 769/17.

G.218  'The problem of confusion in surveys of sources'  n.d.

Typescript, possibly not a lecture.

From Acc 769/19.

G.219  'Radio astronomical tests of cosmological models'  n.d.
Typescript, further marked ‘Discussion II’. Transcript of a presentation followed by discussion involving R.D. Davies, G.C. McVittie, M. Burbidge. Incomplete.

From Acc 1183.

G.220

‘Radio galaxies’

Manuscript draft, further inscribed ‘Lecture 5’.

From Acc 769/17.

G.221-G.225

Miscellaneous

Includes softback notebook, red, used for notes on an unidentified conference; and written notes.

5 folders.

From Acc 769/19 and Acc 1183.

Correspondence, found loose. In chronological order.

From Acc 1183 unless stated otherwise.

G.226  Invitations 1959-1964  1959-1964

Mainly from student societies in Cambridge.


Includes an invitation to give the Jansky Lecture and an invitation to attend the IAU symposium on 'Instability phenomena in galaxies' at the Byurakan Astrophysical Observatory, USSR, in May 1966.

Includes material from Acc 1125.


Includes correspondence re the 250th anniversary celebrations of the Soviet Academy of Science in 1975.
Ryle had been elected Foreign Member of USSR Academy of Sciences in 1971, see A.233, A.234.

2 folders.


Includes an invitation from the Indian National Science Academy.

Includes material from Acc 788/58.

G.231-G.235  LECTURES BY OTHERS  1951, 1959


Transcript of a course first given at the Leiden Observatory, The Netherlands, in the autumn of 1950, then in extended form at the Harvard Observatory, Massachusetts, US, in the spring of 1951.

From Acc 769/21.
G.232-G.235  'Theories of the universe', BBC Radio 3 Lecture Series, 1959


From Acc 769/18.

G.232  W.B. Bonner, 'Relativistic theories', 31 July 1959  1959

G.233  H. Bondi, 'The steady state', 8 August 1959  1959


2 folders.
Arranged in alphabetical order.

H.1 ASSOCIATION OF SCIENTIFIC WORKERS and ASTRONOMICAL SOCIETY OF GLASGOW

H.2-H.42 BOARD OF TRADE, PRECISION APPROACH RADAR INQUIRY

H.43 BOARD OF VISITORS OF THE RADIO TELESCOPE, JODRELL BANK

H.44, H.45 CAMBRIDGE PHILOSOPHICAL SOCIETY

H.46 CAMBRIDGE UNIVERSITY ASTRONOMICAL SOCIETY

H.47 CAMBRIDGE UNIVERSITY WIRELESS SOCIETY

H.48 COUNCIL OF ENGINEERING INSTITUTIONS

H.49-H.132 DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH, later SCIENCE RESEARCH COUNCIL

H.133 EDDINGTON MEMORIAL TRUST

H.134-H.301 INTERNATIONAL ASTRONOMICAL UNION

H.302-H.392 INTERNATIONAL UNION OF RADIO SCIENCE - UNION RADIO-SCIENTIFIQUE
INTERNATIONALE

H.393 JUNIOR ASTRONOMICAL SOCIETY

H.394 MINISTRY OF SUPPLY, SCIENTIFIC ADVISORY COUNCIL

H.395-H.403 NATIONAL PHYSICAL LABORATORY

H.404-H.416 NORTHERN HEMISPHERE OBSERVATORY

H.417, H.418 RAY CLUB

H.419-H.425 ROYAL ASTRONOMICAL SOCIETY

H.426-H.435 ROYAL SOCIETY

H.436-H.443 WORKING PARTY ON THE CONTAMINATION OF SPACE

H.1 ASSOCIATION OF SCIENTIFIC WORKERS 1940-1941

Issues of the Association’s news bulletin, The Scientific Worker.

ASTRONOMICAL SOCIETY OF GLASGOW 1975-1977

Correspondence re Ryle’s continuation in the office of Honorary President. See also A.254.

From Acc 1183.

In the aftermath of the Gatwick Airport disaster of 5 January 1969, when a Boeing 727 crashed into a house, the Board of Trade set up an inquiry to examine the need for retaining Precision Approach Radar (PAR) as a means of monitoring ILS (Instrument Landing Systems) landings by civil aircraft in the United Kingdom. The inquiry was conducted by D.W. Holder, head of the Department of Engineering Science at Oxford University, with the assistance of M.H. Barrett of the British European Airways (BEA) and Ryle. Their report came out in 1970, under the title ‘Precision approach radar. Report of the inquiry into the need to retain PAR to monitor ILS approaches’.

From Acc 1183 unless stated otherwise.

H.2-H.29 Correspondence 1964-1970


Correspondence, notes on meetings, working papers etc., in chronological order.

21 folders.


Correspondence, notes on meetings, working papers etc., in chronological order. Correspondence, notes on meetings, working papers etc., in chronological order. At H.27 is Working Paper No 6: Accuracy and reliability of
ILS and PAR'.

7 folders.

H.30-H.39  Report  1979

H.30-H.37  'PAR inquiry draft report'  1970

From a loose-leaf binder so inscribed.

8 folders.

H.38  'Precision Approach Radar'  1970

Marked 'embargoed until publication'. Typescript, with Ryle’s manuscript notes intercalated.

From Acc 1200.

H.39  Proof copy  1970
H.40, H.41  Correspondence arising  1971, 1978

Includes Ryle’s and Holder’s reactions to the Department of Trade and Industry’s response to their conclusions. Also includes correspondence re information on Holder for his biographical memoir (Holder died in 1977).

2 folders.

H.42  Notebook  n.d.

Red softback notebook, used for notes on air traffic, secondary radar, etc. Probably used for PAR inquiry but may also record interference monitoring at the Mullard Radio Astronomy Observatory.

H.43  BOARD OF VISITORS OF THE RADIO TELESCOPE, JODRELL BANK  1955

Minutes of the first meeting of the Board of Visitors of the Radio Telescope, Jodrell Bank, University of Manchester, 23 June 1955. See also J.129, J.194.

The Board of Visitors of the Jodrell Bank telescope was set up at the instigation of Sir Ben Lockspeiser, who recommended that it ‘should be appointed by the University [of Manchester] to ensure that the equipment was used to the best advantage of radio astronomy in Great Britain’. The Board consisted of representatives of
the Royal Astronomical Society, the Royal Society, Manchester University, Cambridge University (Ryle) and the Department of Scientific and Industrial Research (DSIR).

From Acc 769/16.

H.44, H.45  
CAMBRIDGE PHILOSOPHICAL SOCIETY  
1963-1969


2 folders.

From Acc 1183.

H.46  
CAMBRIDGE UNIVERSITY ASTRONOMICAL SOCIETY  
1962-1982

Correspondence. Also includes a copy of the Society’s magazine *Pulsar*, October 1980, with a manuscript note by Ryle voicing his disagreement with the lead article’s
claim that ‘most of our astronomers are traditionally of the theoretical (i.e. armchair) variety, as is indeed appropriate for Cambridge’. Ryle pointed out that ‘Having spent the last 35 years in the design, construction and operation of various large instruments, he had found, with his colleagues, that observations are sometime of value - even in Cambridge’.

Ryle was Vice-President of the Society in 1976.

From Acc 1183.


Membership lists, correspondence (including re accommodation of the Society).

In 1960 Ryle succeeded J.A. Ratcliffe as President of the Cambridge University Wireless Society.

From Acc 1183.

Correspondence re the establishment of a Fellowship of Engineering.

From Acc 1183.


The Working Party on Circuit Noise surveyed the field of spontaneous electrical fluctuations in valves and circuit elements. It reported to the Radio Noise Committee of the Radio Research Board of the DSIR.

From Acc 769/24.

H.49  'Notes on Meeting of Working Party on Circuit Noise (5 October 1948)'

So inscribed. Manuscript (by Ryle).
H.50

Notes on noise produced in valves with magnetic fields

2 typescripts with a covering letter from the Ministry of Supply.

1949

H.51

'Report of the Working Party on Circuit Noise'

Typescript, entitled 'A survey of existing knowledge and outstanding problems of valve and circuit noise'.

17 January 1950

H.52

'J.A.R. 10. 3. 51'

Ryle's notes (manuscript), possibly on a meeting with J.A. Ratcliffe.

1 March 1951

H.53-H.73

'Astronomy, Space and Radio Board' (ASR)


1965-1975

For the Southern Hemisphere Telescope, see also H.74-H.76, for the Northern Hemisphere Observatory, see H.404-H.407.
21 folders.

From Acc 1183.

Correspondence and papers re the projected Southern Hemisphere Telescope.
4 folders.

From Acc 1183.

H.78-H.82  ‘Royal Greenwich Observatory’  1966-1974

From Acc 1183.

3 folders.

H.81, H.82  Appointment of a new Director of the Observatory  1974
Correspondence and papers.

2 folders.

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<tr>
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<th>Description</th>
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<td>H.83-H.112</td>
<td>'Large Telescope Users’ Panel' (LTUP)</td>
<td>1967-1974</td>
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<td>Chiefly committee papers including applications. Also occasional correspondence.</td>
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<td>H.83-H.86</td>
<td>Inaugural meeting of the LTUP, 18 September 1967</td>
<td>1967</td>
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<td>Includes invitation to serve on the committee, Ryle’s manuscript notes on the first meeting (H.85), Minutes.</td>
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H.90-H.93  Third meeting of the LTUP, 24 September 1968  1968

4 folders.

H.94-H.97  Fourth meeting of the LTUP, 8 April 1969  1969

4 folders.

H.98-H.103  Fifth meeting of the LTUP, 13 October 1969  1969

Applications, reports on observations, minutes.

6 folders.

H.104-H.110  Sixth meeting of the LTUP, 16 March 1970  1970

Applications, reports on observations, minutes. At H.110 are includes notes and correspondence re the future of the panel.

7 folders.
H.111, H.112  Further meetings of the LTUP  1970-1974

Papers re the seventh, twelfth to fifteenth, and sixteenth meeting of the panel.

2 folders.

H.113-H.119  'Astronomy Policy and Grants Committee' (APGC)  1968

From Acc 769/15 and Acc 1183.

H.113-H.115  Eleventh meeting of the APGC, 6 March 1968  1968

Grant applications (not annotated). H.115 is minutes (from Acc 769/15).

3 folders.

H.116-H.119  Thirteenth meeting of the APGC, 26 November 1968  1968

Grant applications.


13 folders.

From Acc 1183.

H.133  EDDINGTON MEMORIAL TRUST  1972-1973

Minutes of meetings of the Trustees.

From Acc 1183.
Ryle was nominated as a member of the International Astronomical Union (IAU) in March 1948 (see J.254).

IAU Commission 40 is dedicated to radio astronomy. The first President of the Commission (1952-1955) was R. v.d. R. Woolley. Ryle was President 1964-1967, succeeding J.F. Denisse. Ryle was succeeded by J.P. Wild.

Material chiefly from a folder inscribed 'IAU General Assembly - Rome 1952'. See also G.35, J.77.

Includes ‘Tentative Comm[ission] 40 business schedule’, reports re terminology and units by Commission V of the International Union of Radio Science (see also J.82), and reports for Commission 40.

5 folders.

From Acc 769/8 and Acc 769/16.

H.139-H.142  Conference material  1952

Includes correspondence re Ryle's nomination as a delegate; copy of the conference programme; spiral-bound notebook containing Ryle's notes; and papers from the meeting including 1 monochrome photograph of a 'monochromatic heliograph' for filming the solar chromosphere (H.142).

4 folders.

From Acc 769/12.

Correspondence with the conference organizers; manuscript draft and typescript of Ryle's paper on 'Some investigations of the solar corona by radio methods' (H.144, H.145); 3 monochrome photographs of radio astronomical equipment, from an envelope marked 'Sig. Ryle, Martin' (H.146); and Ryle's notes on the meeting (H.147). See also J.62.

5 folders.

From Acc 769/8 and Acc 769/12.

April 1963-August 1964

Correspondence including re suggested reorganization of IAU commissions, solar affairs, 21cm line calibration.

Material presumably passed on to Ryle by his predecessor as President of Commission 40, J.F. Denisse.

3 folders.

From Acc 1183.

November
1963-June 1967
From a folder so inscribed. Correspondence and circulars re nominations, eligibility etc. Includes Ryle’s own nomination as President of the Commission from 1964.

5 folders.

From Acc 704 ‘RYLE 3/3’.


Chiefly from a folder inscribed ‘General Comm[ission] 40 business’. Correspondence and circulars. H.156 (1964) is Ryle’s acceptance of the Presidency.

7 folders.

From Acc 704 ‘RYLE 3/2’ and Acc 1183.

H.163-H.181  Commission 40 at the 13th General Assembly of the IAU, Prague, Czechoslovakia, 22-31 August 1967  1965-1967

Correspondence and papers. For Ryle’s notes during the remainder of the conference, see G.183.

From a folder so inscribed.

From Acc 704 ‘RYLE 3/1’ unless stated otherwise.

H.163  Ryle’s notes  ?1967

Spiral-bound pad.

From Acc 1183.

H.164  President’s notes on agenda for business meeting  1967

Typescript. Includes correspondence.


From a folder so inscribed. Includes ‘Working group on cosmology’ and ‘International/European Observatory’ (H.165), ‘Lunar occultations of the galactic centre [region]’ (H.166), ‘Proposals for spare sessions’ (H.167), ‘Calibration of 21cm line receivers’ (H.168) and ‘Heidmann resolution’ (H.169).

5 folders.

From a folder so inscribed. Correspondence.

3 folders.


From a folder so inscribed. Correspondence.

3 folders.


From a folder so inscribed. Correspondence.

2 folders.

From a folder so inscribed. Correspondence. See also H.284.

2 folders.

H.180, H.181  ‘IAU 1967 Joint Discussion on Little Green Men’

From a folder so inscribed. Correspondence re the desirability of a joint discussion, organized by Commission 40, about communication with extraterrestrial intelligence.

The exchange had been initiated by the Astronomical Council of the Soviet Academy of Sciences.

2 folders.

From Acc 704 ‘RYLE 3/5’.


Correspondence, circulars and notes.

5 folders.
This Working Group was set up during the 14th General Assembly of the IAU in August 1970, to consider the provision of a list of calibration sources for positional work in radio astronomy. Ryle acted as Convener.

2 folders.

The group met during the 15th General Assembly of the IAU in August 1973, to discuss the definition of polarization brightness temperatures, used in the description of polarized extended objects and the galactic background.
In chronological order.

H.190  
'The motion of gaseous masses of cosmical dimensions', 1st IAU Symposium (with the International Union of Theoretical and Applied Mechanics, Paris, France, 16-19 August 1949)

Published proceedings (Problems of Cosmical Aerodynamics).

From Acc 769/21.

H.191-H.196  
'Gas dynamics of the interstellar clouds', 2nd IAU Symposium (with the International Union of Theoretical and Applied Mechanics), Cambridge, 6-11 July 1953

Includes versions of programme and list of participants (H.191), overview of 'preliminary communications' and copies thereof.

Contributors include S. Chandrasekar and E. Fermi, 'Magnetic fields in spiral arms' (H.195), W.H. McCrea, 'Motions of stars through clouds - accretion' and H.C. van de Hulst, 'List of problems and suggested solutions' (H.196).

6 folders.
From Acc 769/16.


See also J.115, J.127, J.190, K.83.

From Acc 769/23 unless stated otherwise.

H.197 Programme

Includes provisional list of participants.

H.198-H.209 Papers

Typescript abstracts (occasionally entire paper). Nearly complete set.

12 folders.

H.210 Ryle’s notes
Spiral-bound notebook. Also includes Ryle’s notes on the 9th General Assembly of the IAU, 29 August-5 September 1955 (see H.211). Used from the back for draft of Ryle’s presentation at the Symposium.

From Acc 769/14.

H.211 9th General Assembly of the IAU, Dublin, Ireland, 29 August-5 September 1955

Original conference pack including copy of the Presidential Address and list of participants. For notes on the meeting see also H.210.


H.212, H.213 Symposium information

Includes various versions of the programme.

2 folders.

From Acc 769/18 and Acc 769/22.
In original order. Includes a lecture by H. Gent from his course on ‘Advanced microwave techniques’, given in Autumn 1955 (H.249).

52 folders.

From Acc 769/22.

Ryle’s notes

Spiral-bound notebook.

From Acc 769/18.

10th General Assembly of the IAU, Moscow, USSR, 12-20 August 1958

Abstracts of papers by the Cambridge delegation.

9 folders.
From Acc 769/11.

H.276  ‘Report for IAU’  1958

Undated typescript of alterations of a report on British radio astronomy.

From Acc 769/18.

H.277  ‘Problems of extragalactic research’, 15th IAU Symposium, Santa Barbara, USA, 10-12 August 1961

Draft (part manuscript, part annotated typescript) of paper on luminosity function.

See also D.17, G.67.

Ryle contributed a paper on ‘The radio luminosity function and number versus flux-density relationship for the discrete sources’ to the Santa Barbara symposium.

From Acc 769/18.

H.278  ‘External galaxies and quasi-stellar objects’, 44th IAU Symposium, Uppsala, Sweden, 10-14 August 1970

1969-1970
Correspondence.

From Acc 1183.

H.279-H.281 'Confrontation of cosmological theories with observational data', 63rd IAU Symposium, Cracow, Poland, 10-12 September 1973

Correspondence and circular, including draft programme.

There was some dissent, during the planning of this symposium, *re* the amount of time to be allocated to the 'hot big bang universe'.

3 folders.

From Acc 1183.

H.282 'Radio astronomy and cosmology', 74th IAU Symposium, Cambridge, 16-20 August 1976

Correspondence, copy of the proposal.

The symposium was originally planned for 1975.
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<th>H.283-H.299</th>
<th>IAU general papers</th>
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<th>H.283-H.288</th>
<th>13th General Assembly of the IAU, Prague, 1965-1967</th>
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<td>Czechoslovakia, 22-31 August 1967</td>
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<th>H.283</th>
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<th>H.284</th>
<th>Programme</th>
<th>1967</th>
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<tr>
<td></td>
<td>Much annotated programme of session ‘Radio studies of H II regions’, a joint meeting of Commissions 40 and 34, and of session ‘OH lines’.</td>
<td></td>
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</table>
From Acc 769/15.


Material re Ryle’s invited discourse on ‘Radio galaxies and quasars -I’. Includes 2 versions of Ryle’s presentation (H.286). See also G.89-G.91, J.290.

The second part of this discourse on radio galaxies and quasars was given by A. Sandage.

3 folders.

Includes material from Acc 769/18 and Acc 704 ‘RYLE 3/6’.

H.288 Informal discussion on variable radio sources 1967

Typescript, notes, correspondence.

The discussion was introduced by K. Kellermann.

Includes material from Acc 704 ‘RYLE 3/6’.

H.289 IAU general correspondence, 1965-1969

IAU general correspondence, 1965-1969

December

1965-

November
Includes circulars.

From 1183.


Correspondence and circulars. Includes a dinner menu, annotated with comparisons of international investments in astronomy (H.293).

4 folders.

Includes material from Acc 788/61.


Correspondence and circulars.

2 folders.
H.297  3rd IAU European Regional Meeting, Tbilisi, USSR, 1-5 July 1975  1973-1975

Correspondence.

H.298  16th General Assembly of the IAU, Grenoble, France, 24 August-2 September 1976  1976

Correspondence and circulars.


H.300, H.301  IAU bulletins  1959-1973


From Acc 1183.
H.301  IAU *Information Bulletin*  1959-1973

From Acc 1183.


See also D.125.

H.302-H.353  8th General Assembly, Stockholm, Sweden, 12-23 July 1948

H.354-H.389  Commission V

H.390-H.392  Background material
See also K.88, K.89.

Lists of participants (preliminary and final), English translation of the report of the General Secretariat; reports of the US, South African and Australian National Committees.

3 folders.

From Acc 769/5.

Ryle acted as one of the Rapporteurs of the Commission.

From Acc 769/5 and Acc 769/16.

Ryle’s notes
Manuscript and typescript (annotated), covering meetings on 14 and 15 July. First pages of the manuscript set also cover inaugural session of the General Assembly.

3 folders.

H.308-H.321 Documents submitted to Commission I 1948

Duplicated typescripts.

14 folders.

H.322-H.350 Documents submitted to Commissions II-IV 1948


29 folders.

From Acc 769/5.

H.352 Joint Commission on Radio-Meteorology Technical Programme 1948

Copy of the programme, 22 and 23 July 1948.

From Acc 769/5.

H.353 Matters arising 1949

Copy of Minutes of the British National Committee for Scientific Radio, 8 February 1949, drawing attention to resolutions taken at the 8th URSI General Assembly.

At Stockholm, Ryle had been appointed British correspondent of URSI Commission V (Extra-terrestrial and Radio Noise). In that capacity he was to maintain liaison between the British National Committee and the Presidents of the Commissions of the International Union.

From Acc 769/5.

URSI Commission V was renamed ‘Radio Astronomy’ (in place of ‘Extra-terrestrial Radio Noise’) following a resolution passed at the 9th General Assembly in 1950.

H.354-H.367 URSI 9th General Assembly, Zurich, Switzerland, 1950

In chronological order.

From Acc 769/5.


Typescript, with a covering letter from A.C.B. Lovell.

H.355 ‘Interim report of the Commission’s activities since the Stockholm Assembly’ May-June 1950

Typescript, with a covering letter from D.F. Martyn, the President of the Commission.


8 folders.

H.364

‘Report on the Proceedings of Commission V at the URSI General Assembly, Zurich, September 1950’

1950

Typescript, by A.C.B. Lovell.

H.365, H.366

Working Party on Terminology in Radio Astronomy

1951

Copy of the ‘Report of Sub-Committee on Terminology and Units’, correspondence. See also J.131.

In the course of the meetings of Commission V at the 9th General Assembly, a working party drew up recommendations relating to terminology in radio astronomy. Subsequently these were circulated for discussion among Commission V, and also communicated to Commission 40 of the IAU (see H.134-H.138).

2 folders.
H.367  
**URSI Information Bulletin**  
1950

Copy of *Bulletin* covering the 9th General Assembly.

H.368-H.380  
Permanent Subcommittee Va  
1950-1951, n.d.

Reports and some correspondence. In chronological order. See also Section J.

Subcommittee Va was set up at the URSI 9th General Assembly in September 1950, to advise the Commission on the improvement of the world chain of solar radio observatories, with special reference to standardization of apparatus and avoidance of interference. Handling of the problem of the clearance of frequency bands for radio astronomy was likewise assigned to this Subcommittee.

From Acc 769/5.

H.368  
‘Description and diagrams of the solar-noise-receiving-apparatus, Netherlands PTT, November 1950’  
November 1950

Report including extensive diagrams.

H.369  
‘Solar radio noise observation at the Tokyo Astronomical Observatory’  
December 1950
H.370  'Description of the apparatus used for recording solar noise at Cambridge'  February 1951

   Includes a diagram. Also includes report for Byfleet, Surrey.

H.371  'Description of the apparatus for solar noise, Astrophysical Observatory Arcetri (Florence)'  February 1951

H.372  'Le radiotélescope de Meudon'  February 1951

H.373-H.378  'Comparative review of solar noise data, January-August 1951'  October 1951

   Includes data graphs. Also includes reports on solar radio emissions from the Radio Astronomical Observatory, Osaka City University, Japan (H.378).

   6 folders.

H.379  'Report from the Chairman of Sub-Committee Va of URSI to the Chairman of Commission V of URSI'  late 1951

   Typescript, written after October 1951.
H.380  'Description and diagrams of the solar-noise-receiving-apparatus, Netherlands PTT, December 1951'  December 1951

As H.368.


Typescript draft, annotated. Also includes an URSI circular to National Committees. See also D.65, J.76.

2 folders.

From Acc 769/5 and Acc 769/8.

H.383  'Report on British Work in Radio Astronomy since 1950 for Commission V at the Xth General Assembly of URSI'  1952

Typescript.

From Acc 769/16.

Copy of ‘Report on British Work in Radio Astronomy since 1952 for Commission V at the XIth General Assembly of URSI’.

From Acc 769/16.


Copy of ‘Report on British Work in Radio Astronomy since 1954 for Commission V at the XIIth General Assembly of URSI’, with a covering letter by A.C.B. Lovell. Further includes copy of first announcement of the meeting. See also C.195.

2 folders.

From Acc 769/15 and Acc 769/18.

H.387  URSI 14th General Assembly, Tokyo, Japan, 9-20 September 1963  1963

Typescript of ‘Developments in radio resource work since 1960’, Ryle’s introductory lecture given at the meeting of
Commission V on 12 September 1963. See also G.161.

From Acc 769/18.

H.388  URSI 15th General Assembly, Munich, West Germany, 5-15 September 1966  1965-1966


From Acc 1183.

H.389  URSI 16th General Assembly, Ottawa, Canada, August 1969  1968

Correspondence, including re a possible joint Commission I and V session on the measurement of noise.

From Acc 1183.

H.390-H.392  Background material  1948-1951
From Acc 769/5 and Acc 769/21.

H.390  ‘Commission mixte pour l’étude des relations entre les phénomènes solaires et terrestres’  ?1948

Transcript of a colloquium in Zurich, Switzerland, 10 August 1948.

H.391  ‘Commission mixte de l’ionosphère’  1949

Copy of published proceedings of the first meeting held in Brussels, Belgium, 28-30 July 1948.

H.392  ‘Septième rapport de la commission pour l’étude des relations entre les phénomènes solaires et terrestres’  1951

Copy of published report.

H.393  JUNIOR ASTRONOMICAL SOCIETY (JAS)  1975-1983

Correspondence re Ryle’s patronage for the Society. Also includes odd copies of the JAS News Circular, 1978-1983. See also J.336.
Correspondence re the return of ‘secret documents relating to [Ryle’s] work on the Generation, Reception and Presentation Committee of the Radar & Signals Advisory Board’. Includes lists of documents returned. See also J.106, J.164.

From Acc 1128/1.

‘Report of the Physics Division Visiting Panel’

Annotated typescript of a report by F.B. Bowden, J.S. Courtney-Pratt and Ryle.
From Acc 769/16.


Correspondence and committee papers.

The Glazebrook Committee was set up in July 1966 to advise the NPL's Steering Committee on the objectives of the Laboratory's work on measurement science.

From Acc 1183.

H.396-H.398 First meeting of the Glazebrook Committee, 18 October 1966 September-December 1966

Includes minutes.

Ryle was unable to attend.

3 folders.

H.399 ‘NPL Programme and Resources, 1967/68’ November 1966

Copy of the paper.

Contents of an envelope. Includes annotated committee papers and draft annual report to the NPL Steering Committee.

4 folders.


Correspondence and papers re the projected Northern Hemisphere Observatory (NHO). In chronological order.

From Acc 1183.

H.404-H.406  'Northern Hemisphere Review'  December 1970

Annotated typescript of a report by the Science Research Council's Astronomy, Space and Radio (ASR) Board, reviewing SRC support of optical astronomy in the northern hemisphere.

For other contemporary activities of the Astronomy, Space and Radio Board, see H.53-H.73.
Consultations among UK astronomers

Includes reports summarizing discussions and responses.

2 folders.

SRC consultations

Correspondence and papers re upcoming meetings of the NHO Planning Committee and the ASR Review Panel.

2 folders.

Statement in support of the NHO, November 1973

Draft statement ‘The case for the Northern Hemisphere Observatory now’ and correspondence.

Ryle circulated the statement among British astronomers to collect signatures. The point of the initiative was to convince the SRC’s new Chairman of the importance of astronomy.
4 folders.

H.416  Correspondence, 1974-1977  1974-1977

Chiefly re site-testing and further lobbying.


Correspondence, chiefly re arrangements for meetings of the Club.

The Ray Club was founded 1837. Named after the seventeenth-century naturalist and theologian John Ray, it convened for soirées in May and in November. Its membership was self-selecting and limited in number. Ryle became a member in May 1968.

2 folders.

From Acc 769/3, 788/58 and Acc 1183.
Material re meetings of the Society’s Committee for Radio-Astronomy.

From Acc 769/7 unless stated otherwise.

H.419 Inaugural meeting of the Committee for Radio-Astronomy, February 10 February 1950 1950

Copy of the minutes.

H.420, H.421 Meeting of the Committee for Radio-Astronomy, February 27 February 1950 1950

Includes a copy of A.C.B. Lovell’s ‘Proposal for a 250ft aperture steerable paraboloid for use in radio astronomy’. Minutes of the meeting at H.421.

The meeting took place in Sir Edward Appleton’s apartments at the University of Edinburgh.

2 folders.
Meeting of the Committee for Radio-Astronomy, 12 May 1950


3 folders.

Meeting of the Joint Permanent Eclipse Committee, 12 October 1956

Typescript notes for the meeting (authorship uncertain). See also J.277.

From Acc 769/15.
Ryle was elected FRS in 1952.

H.426-H.428 Royal Society elections 1952-1957

Notes and correspondence re elections to the Fellowship, Sectional Committees, etc. See also J.403.

3 folders.

From Acc 769/28.

H.429-H.435 Miscellaneous 1965-1974

Correspondence (H.429) and committee papers, among them material re the British National Committee for Astronomy (H.431-H.434).

7 folders.

From Acc 1183.

The Working Party on the Contamination of Space, also
dubbed the 'Rainbow Bomb Committee', was set up
following a high-altitude nuclear test conducted by the US
on 9 July 1962. After the explosion, the sky in the Pacific
region was illuminated for several minutes by an artificial
aurora (hence 'rainbow bomb'). Astronomers were
concerned with the long-term impact of this explosion,
notably with changes in the charged-particle environment
of the earth, which radiated radio waves that interfered
with radio-astronomical observations. Astronomers were
also critical that world science had no advance
information of this nuclear test, despite prior resolutions of
the International Astronomical Union.

The UK's Working Party on the Contamination of Space
reported to the Steering Group on Space Research of the
Office of the Minister of Science. In addition to J.A.
Ratcliffe, who chaired the working party, and Ryle, its
membership included D.E. Blackwell, J.V. Dunworth, Sir
Bernard Lovell, Sir Willis Jackson, D.G. King-Hele, H.
Stanesby, C. Williams and R. Wilson. The working party's
report on 'The effects of high-altitude nuclear explosions
on scientific experiments' was published in May 1963.

From Acc 1183 unless stated otherwise.
Also includes press clippings (from Acc 788/61).

4 folders.

H.440, H.441  
Working Party papers  
January-May 1963

Drafts of the report of the Working Party, correspondence arising.

2 folders.

H.442, H.443  
Additional material  
?1962-1964

Includes a manuscript draft of a paper by Ryle and F.G. Smith on the rainbow bomb, intended for Physics Today. Also includes a draft book review of A.C.B. Lovell's The Exploration of Outer Space (the review stresses the potential threat to Lovell's science of changes in the van Allen belts).

2 folders.

J.1-J.247  ‘CORRESPONDENCE FILES’

J.248-J.380  GENERAL CORRESPONDENCE

J.381-J.406  REFERENCES AND RECOMMENDATIONS


From Acc 704.

J.1-J.61  ‘Correspondence A-Z 1949-1950’

J.62-J.106  ‘Correspondence A-Z 1950-1952’

J.107-J.164  ‘Correspondence A-Z 1953-1955’

J.165-J.233  ‘Correspondence A-Z 1955-1958’

J.234-J.247  Correspondence with Juan Lazzerro

J.1-J.61  ‘Correspondence A-Z 1949-1950’  1946-1951
From a folder so inscribed (authority unclear), with alphabetical dividers. Mainly scientific and engineering correspondence. Also includes correspondence with publishers and with amateur radio astronomers.

From Acc 704 ‘RYLE 1/1’.

J.1-J.4  Allen-Atanasijevic  1948-1950

Chiefly with C.W. Allen of the Mount Stromlo Observatory re solar noise, and with Sir Edward Appleton re radio observations during the 1948 solar eclipse, the first International Union of Radio Science report on solar and galactic radio noise, etc. Also includes a note describing a proposed exhibit for the Festival of Britain, outlining how radio interferometry works in conjunction with the rotation of the earth.

4 folders.

J.5-J.9  Baxandall-Burgess  1949-1950

Includes correspondence with H.G. Booker re cosmic point sources, with J.G. Bolton re observations on Cygnus (J.6), with R.E. Burgess re the Würzburg mirror, circuit noise, a report of the meeting of the International Radio Consultative Committee in Stockholm, 1948, and a long letter from R. Hanbury Brown re activities at Jodrell Bank, Cheshire.

4 folders.
J.10-J.12 Cherry-Covington 1949-1950

Includes correspondence re invitations for Ryle to give presentations on radio astronomy at the electrical engineering department of Imperial College, the National Physical Laboratory, Teddington, and the Atomic Energy Research Establishment, Harwell. J.12 is with A.E. Covington, re solar noise bursts, large circular dishes etc.

3 folders.

J.13 Dee-Duell 1949-1950

Includes correspondence with J.F. Denisse re his work on emissions from an ionised gas, and with the popular magazine *Discovery* re an article on radio astronomy (see also F.16-F.18).

J.14, J.15 Ellison-Emeléus 1949-1950

Includes typescript reports by Ryle on the programme of work in radio astronomy at the Cavendish Laboratory, and correspondence with K.G. Emeléus re solar radio emission by electronic plasma oscillations.

2 folders.

J.16, J.17 Fallaw-Feather 1949-1950
Includes invitations for Ryle to give presentations.

2 folders.

J.18 Gallet-Gregory 1949-1950

Includes correspondence re manufacture of waterproof aerial junctions.

J.19-J.22 Hagen-Huntley 1949-1951

Includes correspondence with J.O. Hagen re observations of the solar eclipse from the island of Attu, Alaska, in September 1950; with J.S. Hey re a proposed eclipse expedition in 1952, etc.; with F. Horner re frequencies used for radio astronomy in Cambridge; and with F. Hoyle re differences in opinion at a recent meeting of the Kapitza Club re gyro-wave escaping. Also includes an extensive exchange with H.E. Huntley of the University College of the Gold Coast, re equipment to set up a radio observatory in equatorial regions.

4 folders.

J.23 Institute of Physics-Jones 1949-1950

Includes correspondence from R. v. d. R. Woolley re
Commission 40 of the International Astronomical Union (IAU).

J.24-J.26 Kahan-Kwal 1949-1950

Chiefly with the Russian-French astronomer V. Kourganoff re an invitation for Ryle to speak at the Institut d’Astrophysique, Paris, the subsequent circulation of his seminars, etc. (see also G.25, G.26, G.134-G.141).

3 folders.

J.27-J.36 Laffineur-Lyot 1948-1951


10 folders.

J.37-J.39 McCusker-Minnaert 1949-1950

Includes exchanges with G.G. MacFarlane re amplifying waves in slipping streams of electrons; with D.A. MacRae
re identification of stellar origin of discrete radio sources; with M. Minnaert of the Sterrewacht, Utrecht, re his borrowing of ‘an English radio expert’.

3 folders.

J.40 Naismith-Newton 1949-1951

Includes an exchange with R. Naismith re use of his ionosphere recordings by Ryle and A. Hewish.

J.41 Oort-Ovenden 1949-1950

Chiefly with J.H. Oort (and H.C. van de Hulst) of the Sterrewacht, Leiden, re deduction of the approximate population density of the discrete radio sources in the galaxy, etc.

J.42-J.45 Pain-Plaskett 1949-1951

Includes an exchange with J.L. Pawsey re the occurrence of ‘unpolarised bursts’ on the higher frequencies. At J.44 is correspondence with Physics Today re an article on radio astronomy (see F.16-F.19).

4 folders.

Includes correspondence with G. Reber re Ryle's article in *Physics Today*.

3 folders.

J.49-J.54  Sartain-Stratton  1946-1950

Includes copy of a report by Ryle on 'A suggested method for using projectiles for the investigation ... of atmospheric refractive index, with particular reference to the measurement of electron density in the ionosphere', dated April 1946 (J.50); correspondence with H.M. Stanier re his work on the distribution of radiation from the un-disturbed sun (J.52), and with J.-L. Steinberg re radio astronomical observing equipment (J.53).

6 folders.

J.55  Tandberg-Trinity  1949-1950

Including re invitations to give colloquia at the Atomic Energy Research Establishment at Harwell and at the Services Electronics Research Laboratory of the Admiralty.
J.56, J.57  University Library (Cambridge)-Vrede  1949-1951

Includes correspondence re the work of URSI Sub-Commission Va. See H.368-H.380.

2 folders.

J.58-J.61  Wait-Woolley  1949-1951

Includes outline for a monograph on radio astronomy (J.58); exchange with K.C. Westfold re ray trajectories in the solar corona, methods of deducing the density of radio stars, etc. (J.59); with E.K. Williams re the use of interference aerial systems for aircraft tracking (J.60); and with R. v. d. R. Woolley re IAU Commission 40, including a typescript note by Ryle on ‘Observations in radio astronomy at the Cavendish Laboratory’ (J.61).

4 folders.


From a folder so inscribed (authority unclear), with alphabetical dividers. Mainly scientific and engineering correspondence. Also includes correspondence with publishers and with radio astronomy amateurs.
From Acc 704 'RYLE 1/2'.

J.62, J.63  Abetti-d’Azambuja  1951-1952

Includes an exchange with H. Alfvén re interferometry methods for eclipse solar noise measurements (this resumed a conversation that had begun at a recent conference at the Accademia Nazionale dei Lincei, Florence (see H.143-H.147)). Also includes correspondence with Sir Edward Appleton re ‘a mad idea [about measuring the effective temperature of the F2 layer]’ and with L. d’Azambuja re investigation of the solar corona.

2 folders.

J.64-J.66  Bappu-Butler  1951-1952

Includes transcripts from and correspondence re the conference on ‘Dynamics of ionized media’, University College, London, March 1951 (J.65). Also includes correspondence with H.E. Butler of the Dunsink Observatory re his observations of stellar scintillations.

3 folders.

J.67  Cooke-Chadwick  1951
Includes a letter from E.H. Cooke-Yarborough reporting on 'the present state of the cosmic ray experiment' at Harwell.

J.68 Denisse-Down 1951-1952

Re solar eclipse observations and re Ryle lecturing on radio astronomy at an adult education college.

J.69 Ellison-Ewen 1951-1952

Includes editorial correspondence with the Observatory and the magazine Endeavour.

J.70 Follett 1952

Re an invitation to give presentation on radio astronomy at the Physical Society of Bristol University.

J.71 Gabor-Gupta 1951-1952

Including re plasma oscillations.
J.72-J.79  Hanbury-Huntley  1951-1953

Includes an extensive exchange with J.S. Hey (J.73-J.76), including URSI documents on eclipse observations and a translation into English of A. Unsöld’s paper on ‘The origin of the radio frequency radiation and of the ultra radiation in the Milky Way’. Further includes Cambridge observations of solar radio emissions February-June 1951 (J.72); typescripts of Ryle’s paper on ‘Investigation of the HII regions by the continuous radio emission’ and his reply to A. Unsöld’s remark about ‘the desirability of observing bright gas nebulosities (Orion) in the range of 30-60 cm’ (both from the 8th General Assembly of the IAU, September 1952) (J.77). J.79 continues Ryle’s advice to H.E. Huntley re how to set up a radio observatory in equatorial regions.

8 folders.

J.80  Institute of Physics-Jowett  1951-1952

Including re articles by Ryle for the magazine Wireless World.

J.81  Kittel-Kruger  1951-1953

Chiefly requests for offprints, but also includes correspondence with V. Kourganoff re whether radio stars are star-like bodies or large diffuse regions.
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<tr>
<td>Chiefly with A.C.B. Lovell.</td>
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<th>Maduell-Mott</th>
<th>1951-1952</th>
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<tr>
<td>Includes an exchange with E.C.S. Megaw re the basic reason for the fluctuations in the galactic radio waves observed by Ryle and Hewish in the previous year.</td>
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<td>2 folders.</td>
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<tr>
<th>J.87</th>
<th>Nature-Newton</th>
<th>1951-1952</th>
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<td>Chiefly editorial correspondence.</td>
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<tr>
<th>J.88</th>
<th>Onley-Oort</th>
<th>1951-1952</th>
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<tr>
<td>Chiefly with J.H. Oort. Covers ‘model computations of the</td>
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galaxy’ (i.e. distribution of radio stars), the ‘twinkling’ of radio stars, evidence against the idea that radio stars are a special type of extra-galactic nebula whose ‘background’ radiation is very much more intense than that of our own galaxy, the interpretation of Hydrogen line observations, etc.

J.89-J.91 Pawsey-Price 1949-1952

J.89, J.90 is an exchange with J.L. Pawsey (including ‘Notes on interferometer errors’ by Division of Radiophysics of the Commonwealth Scientific and Industrial Research Organization, where Pawsey was based). J.91 includes a draft review for Proceedings of the Physical Society of Lovell’s book (with J.A. Clegg) on radio astronomy and correspondence with C.F. Powell at the University of Bristol re recruitment of students into the Cambridge radio astronomy group.

3 folders.

J.92-J.94 Ratcliffe-Royal Society 1951-1952

Includes correspondence with J.A. Ratcliffe re student recruitment into the Cambridge radio astronomy group. Also includes a draft review for the magazine Research of Lovell’s book (with J.A. Clegg) on radio astronomy.

3 folders.
J.95-J.97 Sartain-Swings 1951-1952

Includes correspondence with S.F. Singer re plans for determining electron densities directly by means of rocket experiments and re the identification of radio sources with visible objects; with F.J.M. Stratton re radio star ‘twinkling’

3 folders.

J.98, J.99 Takakura-Tuominen 1951-1952

Includes an exchange with T. Takakura re solar emissions and with J. Tuominen re equipment etc.

2 folders.

J.100-J.104 Voogt-Vrede 1950-1952

With A.H. de Voogt re URSI Sub-Commission Va work and with the Dutch amateur astronomer (and founder of the International Physiological Research-Office ‘Peace’) A. van Vrede.

5 folders.
Includes a typescript of a paper entitled 'The design of an equipment for measuring small radio-frequency noise powers' (J.105). Also includes correspondence with S.P. Wyatt of the University of Michigan, US, re their new graduate course in radio astronomy.

2 folders.

From a folder so inscribed (authority unclear), with alphabetical dividers. Mainly scientific and engineering correspondence. Also includes correspondence with publishers and with radio astronomy amateurs.

From Acc 704 'RYLE 1/3'.

Includes an exchange with Sir Edward Appleton re his upcoming presidential address to the British Association for the Advancement of Science, with Ryle’s comments on the text.

2 folders.
Including with radio astronomer W. Baade re galaxy NGC 2623, with A. Clow re BBC programmes about radio astronomy. Also includes correspondence re the grant from the electronics firm Mullard Ltd for the new Cambridge radio astronomy observatory, re the symposium on ‘Solar eclipses and the ionosphere’ at the Royal Society, 22-24 August 1955, re a Royal Institution initiative to give science teachers a glimpse of current research, re interference through broadcasts of the BBC.

5 folders.

Including with W.N. Christiansen re ‘the URSI report on the sun’.

Includes requests from participants of the 9th General Assembly of the IAU to visit the Cambridge radio observatory.

The 9th General Assembly of the IAU took place in Dublin, Ireland, in August-September 1955. There also was an IAU symposium on radio astronomy at Jodrell Bank, Cheshire, beforehand (H.197-H.211).

Includes an exchange with K.S. Emeléus re his research on the possible importance of plasma oscillations in mechanisms of radio star emissions and F. Hoyle’s theories on the matter; also a draft report (by Ryle) on the ‘The use of Evershed recorders in radio astronomy’, for the publicity department of the manufacturer.

2 folders.

J.118  ‘Film’-Fry  1953-1955

Re a documentary film on radio astronomy in Britain, etc.

J.119-J.121  Garner-Greenstein  1953-1955

J.119 includes a typescript annual report from the Cavendish Laboratory for the Royal Astronomical Society; an exchange with T. Gold re his work on the possibility of Cepheids producing conditions which might be suitable for radio emissions, re Gold’s hopes to speedily use data obtained through ‘4½ rather hectic years dealing with mud, steel and concrete and with much tedious analysis’ by Ryle’s PhD students, etc.; and with Mullard Ltd re the company’s grant for the extension of the radio astronomy work of the Cavendish Laboratory.

3 folders.
Including with Norwegian colleagues (E.A. Tandberg-Hanssen, L. Harang) re shared research interests, proposed visits to Cambridge, and variations in scintillation data obtained in the auroral zone (Tromsö), Cambridge, and the equatorial region (Gold Coast); with T. Hatanaka re proposed Japanese observation programme of radio star scintillation and re Hatanaka’s forthcoming visit; with J.S. Hey re ‘fast wire’ aerials etc.; with H.C. van de Hulst re the IAU Symposium at Jodrell Bank (see H.197-H.211) etc.; and with H.E. Huntley re the expansion of the radio astronomical programme at University College of the Gold Coast.

7 folders.

Including with J.V. Jelley re ‘air-shower experiments’ and the problem of continual radiation from Geiger cables; re the Board of Visitors for the Radio Telescope at Jodrell Bank (H.43); with H.M. Johnson re symmetric galactic nebulae (includes Johnson’s typescript ‘Galactic radio noise, Gould’s Belt and T Tauri stars’); and with J.K.S. Jowett re forecasting of periods of disturbed ionospheric conditions.

2 folders.

Including with H.C. van de Hulst re the IAU Symposium at Jodrell Bank (see H.197-H.211) etc.; and with H.E. Huntley re the expansion of the radio astronomical programme at University College of the Gold Coast.
Includes papers from URSI Sub-Commission Vb (see also H.365, H.366); and correspondence with Kodak Ltd re use of Fourier synthesis in photographic methods for the accurate integration of observational data, and with J.R. Koster at University College of the Gold Coast re their scintillation records etc.

3 folders.

J.134-J.137 Lebenbaum-Lovell 1952-1955

Chiefly with A.C.B. Lovell, re meetings with Dutch and French colleagues and the IAU symposium at Jodrell Bank in August 1955, re media coverage of the new Jodrell Bank telescope, re a documentary film on radio astronomy in Britain, etc. Includes a draft report to URSI Commission V at the 11th Assembly of URSI in 1954.

4 folders.

J.138-J.142 McCrea-Mullard Ltd 1951-1955

Includes a substantial exchange with R.L. Minkowski and his Mount Palomar colleague W. Baade (plus correspondence arising) at J.140, J.141.

5 folders.
Includes editorial correspondence with *Nature* and *re* the IAU committee developing a research program for the International Geophysical Year 1957-1958.

2 folders.

**J.145, J.146**  
O’Brien-Oxford  
1953-1955

Including with *Observatory* magazine *re* publication of Ryle’s Halley Lecture on ‘Radio stars and their cosmological significance’, and with J.H. Oort *re* Ryle’s participation in the symposium ‘Comparisons of the large-scale structure of the Galactic System with that of other stellar systems’, 9th General Assembly of the IAU, Dublin, 1955 (see also H.210, H.211).

2 folders.

**J.147-J.153**  
Page-Pye  
1952-1955

Correspondence with J.L. Pawsey and P. Rosbaud *re* a proposed book series on ‘Progress in radio astronomy’ and other publishing projects, among them an *Atlas for Radio Astronomy*. Includes a typescript draft *Catalogue of certainly known discrete sources of cosmic radio waves* (J.148), an exchange with J.E Pfeiffer *re* his book project on radio astronomy (J.151), with J.G. Porter *re* predictions of radio star occultations, and with Pye
Telecommunications Ltd re interference problems.

7 folders.

J.154-J.156 Reber-Royal Society 1952-1955

Including with G. Reber re scintillation, with engineer H. Rinia re the superior performance of the EC56 tube, with J.A. Roberts re J.P. Wild’s work on harmonics, etc.

3 folders.

J.157-J.159 Sadler-Suzuki 1952-1955

Including with D.H. Sadler (of H.M. Nautical Almanac Office) re predictions of radio star occultations and re maps of Cambridge occultations, and with H. Siedentopf re electron density in the outer corona, distribution of radio-radiation across the solar disk etc.

3 folders.


With T. Takakura re the solar corona, re the work of P. O’Brien and R. Conway, re the Cambridge specifications of the installation of helical membrane cable, with J.
Tuominen re Helsinki data on Cassiopeia, Cygnus, Taurus and Virgo, possible equipment problems, the 1954 solar eclipse etc.

2 folders.

J.162, J.163 Unsöld-Vrede 1953-1955

Including with A. Unsöld re his upcoming visit, re discussions with Ryle et al. on the detection of radio emissions from the Orion nebula, etc; also with A.H. de Voogt re URSI Sub-Commission Va work and with A. van Vrede.

2 folders.

J.164 Warwick-Woodford 1953-1955

Including with R. Westerhout re whether the temperature measured in the galactic plane can be ascribed to the thermionic emission of interstellar gas, etc.


From a folder so inscribed (authority unclear), with
alphabetical dividers. Mainly scientific and engineering correspondence. Also includes correspondence with publishers, radio astronomy amateurs, science teachers and pupils.

Key topics include Ryle's Halley Lecture, the opening of the Mullard Radio Astronomical Observatory (MRAO) in July 1957, the launch of the Soviet Sputnik satellite in October 1957, the use of computing equipment in conjunction with radio telescopes, etc.

From Acc 704 'RYLE 1/4'.

J.165-J.167  Adgie-Astor  1955-1958

Includes correspondence with Sir Edward Appleton re J.L. Pawsey's results with the new Mills Cross Telescope at Badgerys Creek near Sydney, Australia etc.

3 folders.


Including with W. Baade re peculiarity of galaxy NGC 2623, with Cambridge colleagues in the Department of Engineering re the new interferometer to be built at Lords Bridge (see also C.277-C.291), with P.M.S. Blackett re origin theories of cosmic rays, with Boulton Paul Electronics re a problem in using EDSAC for the reduction and analysis of a large amount of experimental data, and with E.G. Bolton re B.Y. Mills' criticism of Ryle's recent article in *Scientific American* (1956).
EDSAC (Electronic Delay Storage Automatic Calculator) was the first practical stored-program electronic computer. It was built at the Cambridge Mathematical Laboratory and ran its first programme in May 1949.

5 folders.

Including with science journalist R. Calder (re his article on the new telescope) and J.G. Crowther (re his book manuscript); with the Greek astronomer G.I. Contopoulos re discussions on the occasion of the 9th General Assembly of the IAU, Dublin, Ireland, 1955; with R.G. Conway re his measurements at 400 Mc/s with the 25-m dish; re the radio astronomy exhibit at the UK Pavilion of the 1958 World Exhibition in Brussels, Belgium; re equipment for the automatic digital recording of the output information from a radio telescope etc.; with M. Cutolo re building of a radio astronomical observatory in Southern Italy.

4 folders.

Including re establishment of a radio telescope on the Cape Pensinsula, South Africa, and with D.W. Dewhirst re his observations at Mount Palomar in the spring of 1958.
3 folders.

J.180 'Editor'-Evershed & Vignoles Ltd 1958

Chiefly an exchange with and re Evershed & Vignoles Ltd re an inquiry from the South African Mining and Engineering Journal re displaying solar radio emissions.

J.181-J.183 Faber-Frizzell 1955-1958

Including invitation from the Royal Society of Edinburgh to deliver the Bruce Preller Lecture; correspondence with F. Flügge re a new international edition of the Handbuch der Physik; and correspondence re unexpected interference from supply mains.

3 folders.

J.184, J.185 Galt-Gupta 1955-1958

Including re arrangements for the radio astronomy exhibit at the UK Pavilion of the 1958 World Exhibition in Brussels, Belgium, and with M.K. Das Gupta re his monograph on radio astronomy for the Indian Physical Society.

2 folders.
Including correspondence with F.T. Haddock re tracking Sputnik etc., with J. Hardwick re data handling problems (recording of voltages on teleprinter tape) at the MRAO, with a New Scientist reader disagreeing with accounts of the early history of radio astronomy issued by the MRAO and Jodrell Bank and with H.C. van de Hulst, chiefly re editing the publication of the Jodrell Bank IAU symposium in August 1955 (see also H.197-H.211).

5 folders.

Includes committee paper of IAU Commission 40 (draft minutes of the meetings at Dublin, 1955); correspondence with the artist W.H. Jarvis, who planned to interpret the upper atmosphere and radio astronomy on canvas; and with J.V. Jelley re the detection of cosmic ray air showers at radio frequencies.

4 folders.

Including with T.R. Kaiser re formulae for weak scattering; with the R.O. Kapp re his monograph on a unified cosmology; with the German engineer H.H.
Klinger, author of an introduction to radio astronomy for a popular series; with suppliers re the geared motor units for control of the large radio telescope then under construction at the MRAO; with V. Kourganoff re a student exchange programme between the Laboratoire d’Astronomie at Lille, France, and the UK.

4 folders.

J.199-J.201  Laffineur-Lyttleton  1955-1958

Includes correspondence with M.T. Lebenbaum re low noise tubes’ with F. Lied re problems with lack of phase and amplitude stability at their radio astronomical facility in Kjeller, Norway, exchange with A.C.B. Lovell re contributions to the 1958 joint IAU-URSI symposium in Paris, etc., and re R.A. Lyttleton’s book The Modern Universe.

3 folders.

J.202-J.207  Manchester-Mullard Ltd  1955-1958

Including with the editor of the ‘New Scientist’ re a series of articles on radio astronomy; re a conference on the interrelations between research of the ionosphere, radio astronomy and radio-location, Essen, West Germany, July 1957; with the Meteorological Office re their wind records on the night 3-4 November 1957, when the radio telescopes at the MRAO sustained considerable damage; and with Mullard Ltd re obtaining effective photographs for the radio astronomy display at the 1958 World Exhibition in Brussels etc.

The conference in Essen coincided with the opening of
the MRAO on 25 July 1957.

6 folders.

J.208 McAfee-McVittie 1954-1958

Including with G.C. McVittie re the distribution of extragalactic radio sources etc.


Including with the Nature re an article for the magazine by the staff of the MRAO, entitled 'Radio observations of the Russian Satellite', etc.

2 folders.


Including with P.A. O’Brien re tuning of the Pye 45 Mc/s strip, activities of the Cambridge radio astronomy group, and O’Brien’s experiences at the University of Natal, South Africa, etc.; with Y. Öhman re activities at the Stockholms Observatorium, Sweden; with J.H. Oort in Leiden re the problem of extragalactic radiation, etc.
2 folders.

J.213-J.216  
Pawsey-Postmaster  
1955-1958

Including with J.L. Pawsey re occultation of radio sources etc.; with Penguin Books Ltd re a book on radio astronomy; with N.V. Philips Gloeilampenfabrieken re the EC56 tube.

4 folders.

J.217-J.221  
Read-Royal Society of Edinburgh  
1955-1958

Including with Realist Film Unit re a film on the ionosphere, Mirror in the Sky; with the scientific adviser to SACEUR (Supreme Allied Commander Europe of NATO) re the debate about cosmology at the 1955 IAU meeting in Dublin; also extensive editorial correspondence with the Royal Astronomical Society.

A typescript report on astronomical work of the Cavendish 1956-1957 is at J.220.

5 folders.

J.222-J.226  
Sadler-Swenson  
1955-1958

Including with the Science Masters’ Association re their 1957 annual meeting, in Cambridge; with the editor of Scientific American re a contribution by Ryle to their issue on extragalactic astronomy.
5 folders.

J.227, J.228  Tandberg-Turman  1955-1958

Including with J. Tuominen re manufacturers of cable adaptors, etc.

2 folders.


Including re orbit predictions for Sputnik I and with V. Vitkevich re his occultation results etc. J.230 is a typescript draft of 'Report for British National Committee (Cambridge contribution)', undated.

2 folders.


Including re an English translation of K. Gilzin's Sputniks and After; re solutions to the engineering problem of rotating simultaneously a number of tubular steel frames supporting the parabolic reflectors of the projected Cambridge radio telescope; re assistance to the Radio Industry Council in the preparation of a radio astronomy exhibit drawing on that created for the World Exhibition in
Brussels, etc.

3 folders.

J.234-J.247  Correspondence with Juan Lazzero  1964x1977

Letters to Ryle from the Venezuelan engineer and amateur quantum theorist J. Lazzero. No outgoing correspondence.

From Acc 704.


Typescript letter and the following enclosures: 2 copies of 'Periodical table of the chemical elements', one of them annotated; copy of J. Lazzero, *La forma de los átomos y de las moléculas* (Caracas, 1964), with a typescript note (J.237); pamphlet 'Bosquejo de las ideas científicas del ing. Juan Lazzero', with a typescript note (J.238); and copy of proofs of *La forma helicoidal de las ondas electromagnéticas* (Caracas, 1968), with a typescript note (J.239).

Some of these enclosures appear to have been posted separately.

6 folders.
J.240  Letter of 30 July 1977  1977

Typescript letter.


Typescript letter, photocopy of previous letter with manuscript corrections.

2 folders.

J.243  Letter of 4 August 1977  1977

Photocopy. Also includes photocopy of top page of previous letter with manuscript inscription.

J.244-J.247  Further enclosures  ?1977

Copies of the following: ‘Bosquejo de las ideas científicas del ing. Juan Lazzerò’, with a typescript note referring to an insertion re H.G. Wells’s theory of parallel universes (J.244); copy of proofs of La forma helicoidal de las ondas electromagnéticas (Caracas, 1968), with a typescript note; photocopy of a meditation on Lazzerò’s unpublished book ‘Espacio-tiempo-luz y átomos’, by the Venezuelan poet Conchita Osio Sarmiento; and pamphlet ‘about the possibility to construct flying saucers ... written by Prof. Ibrahim Garcia Lopez’.

4 folders.

J.248-J.295  ‘Correspondence 1945-1971’

J.296-J.380  Correspondence 1960-1984
From 2 folders so inscribed by radio astronomer and historian W.T. Sullivan III. Scientific and personal correspondence, in chronological order.

From Acc 769/2 and Acc 769/3.

As follows: 1943-1945 (J.248, J.249), 1946 (J.250, J.251), 1947 (J.252, J.253), 1948 (J.254) and 1949 (J.255).

Includes copy of A.C.B. Lovell’s speech of 9 October 1944 in response to the question ‘How best, in peace time, can we attain for the betterment of mankind as a whole, the same spirit of self-sacrifice and of living for a cause that we have in war’ (J.248); typescript of Ryle’s ‘Suggested method for using long-range projectiles for the investigation, at radio frequencies, of atmospheric refractive index, with particular reference to the measurement of electron density in the ionosphere’ (J.251); typescript ‘The possibility of calculating the growth curve of fish, using the heterogonic growth formula’, by Ryle’s sister Margaret (J.252).

8 folders.
Correspondence, 1950s 1949-1959


Includes typescripts 'Radio astronomy in Great Britain' (by A.C.B. Lovell), 'Notes on future aerials for stellar observations', and Sir Edward Appleton's presidential address to the Science Masters Association, 1949 (J.256); 'Radio observations of the solar eclipse of February 25, 1952' and duplicated circulars from J.A. Ratcliffe re his research stay in the USA (J.260, J.261); monochrome photographs documenting the construction of a new radio astronomy observatory at University College of the Gold Coast (J.264); typescript 'Extraterrestrial radio noise. Report on British work since 1948 for Commission V of URSI' and monochrome photograph of D.D. Vonberg (J.266); typescripts 'Report for the 1952 Rome meeting of the IAU on recent work in radio astronomy at the Jodrell Bank experimental station ...' (by Lovell) (J.267), 'Report for Commission 40 of the IAU on recent work at the Cavendish Laboratory' (J.268); 'An electric phase switch for radio astronomy' (by J.R. Foster and P.W.J. Black) (J.274); 'Reflections on multi-phasers' (by P.A.G. Scheuer) (J.279), 'The design of the radio telescope' and 'Redesign of radio telescope staying system' (J.281)

J.280 is original record of the first satellite (i.e Sputnik) observations at the MRAO.

27 folders.

Correspondence, 1960s 1960-1968

(J.289-J.291), and 1968 (J.292, J.293).

Includes typescript ‘Radio galaxies and quasars - II’ by A.R. Sandage (J.290).

11 folders.

J.294, J.295 Correspondence, 1970s 1971-1977

2 folders.


Series assembled from loose correspondence and arranged in chronological order. Scientific and personal correspondence. Also includes occasional correspondence with the public at large.

From Acc 1183 unless stated otherwise.

J.296 Correspondence 1960-1964 1960-1964
Includes material from Acc 769/19.

J.297  Correspondence 1965  1965

J.298, J.299  Correspondence 1966  1966

2 folders.

J.300-J.303  Correspondence 1967  1967

4 folders.

J.304-J.310  Correspondence 1968  1968

January-February (J.304), March (J.305), April (J.306, J.307), May-July (J.308), August (J.309) and September-December (J.310).

7 folders.
J.311 Correspondence 1969

J.312 Correspondence 1970

J.313-J.315 Correspondence 1971

3 folders.

J.316-J.320 Correspondence 1972

5 folders.

J.321-J.323 'Correspondence with G. Wynne-Williams, October 1972-April 1973'

From a folder so inscribed. Includes notes, memoranda and correspondence with other parties, all re the new 5 km telescope at the MRAO.

3 folders.

J.324-J.328 Correspondence with H. Spinrad, November 1972-January 1976

1970-1971

1972

1971-1973

1972-1976
Re distant N galaxy 3C 318. Includes data and photographs.

5 folders.


5 folders.

J.334-J.336 Correspondence 1974 1974

3 folders.

J.337, J.338 Correspondence with A.C.B. Lovell, June 1974 1974

Copy of proposal for Mark Va telescope (‘A multi-telescope radio-linked interferometer’), with a covering letter. Also includes drawing of the brake unit.

Like the Mark IV and Mark V, this instrument was never built.

2 folders.
J.339-J.342  Correspondence 1975  1975

4 folders.

J.343-J.347  Correspondence 1976  1976

J.344 is an account of the UK Schmidt Telescope Unit in Australia and its associated facilities. J.345 is re a Mission Definition Study of the European Space Agency (ESA). J.347 includes correspondence and papers re extraterrestrial intelligence, including newspaper cuttings reporting Ryle's remarks on the subject.

5 folders.


Re a proposed UK millimetre-wave instrument, etc. Includes memoranda and notes on the solar millimetre interferometer at Bordeaux, France.

3 folders.
J.351-J.357  Correspondence 1977
1977

Including re extraterrestrial intelligence.

7 folders.

J.358-J.361  Correspondence with A.C.B. Lovell, January-March 1977
1977

Re effects of defence science on astronomy, and the future of radio astronomy at Jodrell Bank.

4 folders.

J.362, J.363  Correspondence with C.R. Purton, June-December 1977
1977

Re flux density of star HM Sge at 2.7 GHz. Includes data and correspondence with other parties.

2 folders.

J.364, J.365  Correspondence 1978
1977-1978

2 folders.
<table>
<thead>
<tr>
<th>Reference</th>
<th>Year</th>
<th>Description</th>
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<td>1979</td>
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<td>J.368-J.370</td>
<td>1980</td>
<td>Correspondence 1980</td>
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<td>1980</td>
<td>J.369, J.370 is C.S. Gillmor's manuscript 'Wilhelm Altar, Edward V. Appleton, and the magneto-ionic theory'.</td>
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<td>J.371-J.373</td>
<td>1981</td>
<td>Correspondence 1981</td>
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<td>3 folders.</td>
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<td>includes material from Acc 788/58.</td>
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<td>J.374, J.375</td>
<td>1982</td>
<td>Correspondence 1982</td>
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Includes material from Acc 769/19 and Acc 788/58.

J.376  Correspondence with 10 Downing Street, April-November 1982  1982

*Re* the Falkland conflict. Also includes correspondence with the Bishop of Ely.

Includes material from Acc 788/58.

J.377, J.378  Correspondence 1983  1983

Includes A.C.B. Lovell’s manuscript *The origins & development of the bombing aid H2S*.

2 folders.

Includes material from Acc 788/58.

J.379  Correspondence 1984  1984

J.380  Correspondence, undated  n.d.
Includes material from Acc 788/48 and Acc 788/58.

J.381-J.406 REFERENCES AND RECOMMENDATIONS 1957-1982

Assembled from loose material. Not indexed. Some of this material may be closed.

From Acc 1183 unless stated otherwise.

J.381-J.386 Appointments 1957-1982

Arranged as follows: 1957 (J.381); 1963-1973 (J.382); 1974-1977 (J.383); 1980-1982 (J.384-J.486).

6 folders.

From Acc 769/15, Acc 788/52 and Acc 1125.

J.387-J.402 Grant applications 1965-1978

16 folders.

J.403-J.405 Honours and awards 1963-1976

J.403 Fellowship of the Royal Society 1968-1976

See also H.426-H.429.

J.404, J.405 Honorary degrees and prizes 1963-1975

2 folders.


J.407 Correspondence, mainly with the general public, on Ryle’s announcement on 10 Feb 1961 that the universe was changing, as the counts of radio sources were incompatible with the Steady State theory. This led to a large number of letters, many relating to religious belief; Ryle answered many

1961
of these himself, though some were answered by F. Graham Smith. There are also some letters from astronomers, including George Gamow, Ralph Alpher, Otto Struve and Sebastian von Hoerner, and there are also notes to people like Jan Oort, Dennis Sciama, and Victor Ambartsumian.

5 files

Accession 1960.

K.1-K.157  PHOTOGRAPHS
K.158-K.167  PHOTOGRAPHIC SLIDES
K.168-K.179  FIGURES
K.180-K.201  DATA READINGS
K.202  VIDEOTAPE RECORDING
K.203  STAMPS


Monochrome, unless stated otherwise.

K.1-K.61  Photographs of radio-astronomical apparatus
K.62-K.76  Photographs of space objects
K.77, K.78  Photographs of Ryle's windmill
K.79-K.87  Photographs of people
K.88-K.157  Photographs of occasions
Photographs of radio-astronomical apparatus  

K.1-K.61  

Arranged as follows: outdoor views of instruments, followed by indoor views.

K.1-K.26  
Grange Road Field Station (‘Old rifle range’)  
1945x1959  
26 items in 8 folders.

K.1  
Aerial view of the station  
n.d.  
From Acc 769/38.

K.2-K.6  
7.5 metre Würzburg paraboloid  
1945x1959  
5 items. Also includes 2 newspaper clippings re the transport by helicopter of the paraboloid to Lord’s Bridge in 1959.  
2 folders.  
From Acc 769/38.

K.7  
3 metre Würzburg paraboloid  
1950x1952  
From Acc 769/14.

K.8-K.10  
‘Long Michelson’ interferometer, or 1C radio telescope  
n.d.  
3 items, 2 of them showing an unidentified person.  
From Acc 769/38.

K.11-K.24  
2C/3C radio telescope  
n.d.  
14 items.  
From Acc 769/14 and Acc 769/38.
K.25, K.26  Unidentified aerials  n.d.
2 items.
From Acc 769/14 and Acc 769/38.


K.27-K.37  4C radio telescope  1957x1961
11 items in 3 folders.

K.27  Photo album  ?1957
Light blue, with a personal dedication by ‘Jan’. Contains 9
colour photographs.
From Acc 769/38.

K.28-K.37  Loose photographs  1957x1961
10 items. K.32-J.34 feature Ryle, K.35-K.37 were taken
after nightfall.
From Acc 769/14 and Acc 769/38.

K.38-K.44  One Mile Telescope  1962x1964
7 items in 2 folders. K.38-K.41 show various stages of
building work and construction, K.42-K.44 the finished
instrument. See also C.307, C.308.
From Acc 769/14, Acc 769/38 and Acc 788/61.

K.45-K.49  Five Kilometre Telescope  1971x1975
1 image featuring Ryle with one of the paraboloids, and
contents of an envelope inscribed ‘Photos of 5 km
telescope Lord’s Bridge’ (?Rowena Ryle’s handwriting)
with 4 items.
5 items in 2 folders.
From Acc 788/61.

K.50-K.56  Unidentified aerials  n.d.
As follows: 3 items, one showing electronic equipment, found in an envelope inscribed ‘Barrett’s photos of Range’ (K.50-K.52); 3 items showing different views of an array (possibly ‘Serpukhov, USSR’, a suggestion made by W.T. Sullivan III) (K.53-K.55); and 1 item showing a Polish aerial (sent by W. Ivanovska, January 1960)(K.56).

7 items in 2 folders.

From Acc 769/14.

K.57-K.61 Indoor views
As follows: 1 item inscribed ‘L[ord]s Br[idge] Recording tapes. [19]63’ (K.57); 1 item inscribed ‘Martin - 1 mile lab[oratory] [19]63’ (K.58); 3 items showing unidentified electronic equipment (K.59-K.61). See also K.86.

5 items.

From Acc 769/38, Acc 788/50 and Acc 788/61.

K.61A The Lord’s Bridge Book
Photograph album and prints to mark the inauguration of the 1 Mile telescope, 1963, also including prints on the opening of the Mullard Radio Astronomy Observatory in 1957.
Acc 1787

K.62-K.76A Photographs of space objects

K.62-K.64 Solar images
1947-1955

As follows: sunspots, issued by Mount Wilson Observatory, US, 9 March 1947 (K.62); sunspots, inscribed ‘Zeeman-Aufnahmen’, 17 June 1951 (K.63); solar corona ‘photographed by the Royal Greenwich Observatory expedition to Syd Koster, Sweden, 30 June 1954’ (K.64).

3 items.

From Acc 769/14 and Acc 769/38.

K.65, K.66 Displays
n.d.

2 items, mounted, depicting NGC 1952 (Crab Nebula) and NGC 4782, 4783 (two interacting Eo galaxies).
From Acc 769/39A.


As follows: galaxies NGC 2623, further inscribed ‘with best wishes for 1955 W. Baade’ (K.67); NGC 6166 (K.68); 3C 295 (K.69), NGC 1952 (K.70), 6 unidentified items (K.71-K.76) and a colour photograph of a study of Cassiopeia A (K.76A).

11 items in 2 folders.

From Acc 769/14, Acc 769/38 and Acc 1787.

K.77, K.78  Photographs of Ryle’s windmill  n.d.

1 colour photograph (originally mounted) and 1 monochrome photograph showing an AC generator manufactured by Newton Derby Ltd. See also D.406-D.413, F.106.

2 items in 2 folders.

From Acc 788/61.


In chronological order.


From the album of E.H. Cooke-Yarborough, who had written ‘Myself and Martin Ryle preparing for an Open Day at the Electrical Laboratory’. Inscribed on back (authority unclear): ‘Martin Ryle and E.H. Cooke-Yarborough at a Radio Open Day, Oxford pre-Second World War. EHCY says he thinks it is a Times photo’ and ‘1938 or probably 1939’.

Cooke-Yarborough had been a fellow undergraduate at Christ Church, Oxford, a year behind Ryle. Together they set up the University amateur radio station. A few years later they were both leading radar countermeasures groups in the Telecommunications Research Establishment.

From Acc 1183.
K.80, K.81 Old rifle range 1950x1956

2 items featuring unidentified persons on the grounds of the radio-astronomical observatory on Grange Road, with the 2C array and Würzburg dish in the background.

From Acc 769/14.

K.82 ‘July 1955 - first successful experiments’ and ‘Physical Institute, Faculty of Sciences, Beograd’ 1955

Further inscribed ‘Radiotelescope, reflector ø 3 ?m, Receiver for 600 Mc/s’. Featuring 2 unidentified scientists in front of a dish, presumably near Belgrade, Yugoslavia.

From Acc 769/38.


From Acc 769/14.

K.84, K.85 Ryle family at home 1960x1965

2 items, the first featuring all five members of the Ryle family on a sofa ?at home, the second featuring just the parents and one of their daughters.

From Acc 769/14.

K.86 Reading data at the MRAO 11 May 1961

Featuring Ryle (in the foreground) and two colleagues with a ?323 mm roll of data readings extending from a printer at the other end of the room to the foreground. One of the colleagues is seen inspecting computer recording tape as it emerges.

From 769/14.

K.87 ‘Martin [19]65’ 1965

Shows Ryle in front of a display titled ‘Radio investigation
of interplanetary space’.

From Acc 1200.

K.87A  Group photograph of the Cavendish Laboratory Radio Astronomy Group  1973

Acc 1787.

K.87B  Photographs of Ryle  C 1935-83

Includes: Ryle as a schoolboy with a radio set; Ryle’s father, John Ryle; queuing for bread during the war; receiving the Balth van der Pol gold medal, awarded by the International Scientific Radio Union, URSI, Tokyo [Japan], 1963; at the Cavendish, and climbing on the Rifle Range radio telescope; photographs taken at time of Ryle becoming Astronomer Royal, 1972, and winning the Nobel Prize, 1974; Ryle at the Cavendish on his retirement, 1982.

2 files

Acc 1787.


In chronological order.

K.88, K.89  URSI 8th General Assembly, Stockholm, Sweden, 12-23 July 1948  1948


See also H.302-H.353.

2 folders.

From Acc 788/61.

K.90  Symposium on Radio Astronomy, Jodrell Bank Experimental Station, University of Manchester, 13-15 July 1953  1953

Group photograph, identified by W.T. Sullivan III.

From Acc 769/14.
K.91-K.112  Opening of the Mullard Radio Astronomy Observatory, 25 July 1957

Includes unveiling of the plaque, tour through the facilities (indoor and outdoor) with Ryle and A. Hewish as guides, celebratory dinner at Gonville and Caius College with a gathering in the library beforehand. See also C.269-C.276.

From Acc 769/14.

K.113, K.114  Tracking Sputnik

2 items, showing Ryle engaged in reading of tracking data and using equipment. Re Sputnik tracking data, see also J.280. Identified by W.T. Sullivan III.

From Acc 769/14.

K.114A  Photographs of Ryle and his team tracking Sputnik

Acc 1787

K.115-K.131  'The unseen universe', BBC Series *Eye on Research*, 5 April 1960

Two sets of photographs, each described on verso. All document the creation of this programme, the first in a television series of nine portraying the work of Fellows of the Royal Society in its Tercentenary Year. K.115-K.124 were produced by the Press Department of Mullard Ltd and cover also rehearsals. K.125-K.131 were produced by the BBC.

For the script of the programme see G.152.

17 items.

From Acc 769/14.

K.132-K.135  Royal Society Tercentenary

4 items inscribed with reference number on verso, possibly from London News Agency Photos Ltd. Featuring the display 'Distance ≡ Time: Radio astronomy and cosmology' and various persons including Ryle, Sir Lawrence Bragg, F.G. Smith and P. Leslie.

Communication from Prof. John E. Baldwin, 8 September 2009: 'The people I can identify are, reading from left to right on each print:
L75049 [K.132] Smith, Bragg, Ryle …
L75052 [K.134] The exhibit …
K.136-K.142  Press conference on 10 February 1961

7 items, sent (with a covering letter) from Mullard Ltd. Featuring Ryle, A. Hewish, an unidentified woman and various members of the press. See also K.143.

Communication from Prof. John E. Baldwin, 5 September 2009: ‘The woman is Patricia Leslie (Foster after marriage but I suspect that was later than 1961). She was involved in the work on the radio source counts which led to this press conference and the ensuing incendiary row with Fred Hoyle’.

From Acc 769/14.


Featuring Ryle before a blackboard in the crowded seminar room. Date stamp on verso, further stamped ‘Life Photo by Larry Burrows’ and ‘Life Magazine copyright’. See also K.136-K.142. See also K.136-K.142

Communication from Prof. John E. Baldwin, 5 September 2009: ‘[This shows] the old lecture room in the Royal Astronomical Society rooms in Burlington House with Martin presenting the same work to the Society presumably on the same day (but after the press conference, which led in part to the furious reactions). At the table seated, reading from left to right on the print are Ryle, the Assistant Secretary Michael Ovenden, the President Professor R.O. Redman, and the Secretary Hermann Bondi. Hanging on the wall behind is John Herschel!’

From Acc 769/14.

K.144-K.149  Royal visit to the MRAO, 9 March 1961

6 items featuring King Paul I of Greece and his wife, Queen Frederica, N.F. Mott and Mrs Mott, F. Hoyle and Ryle. A photocopy of a local news report on the occasion can be found on verso of K.143.

From Acc 769/14.

K.150  ‘Société Française de Physique, Observatoire de Haute
Provence, Septembre 1965

Group photograph of meeting when Ryle received the Holweck Prize. See also A.204.

From 788/61.

K.151-K.153 'University of Strathclyde Commemoration Day, 22 March 1968'

3 items, one documenting the D.Sc. being conferred on Ryle, the remaining two are group photographs (one of them in colour). See also A.218.

From Acc 769/38.

K.154-K.157 Visit at the MRAO, unidentified occasion

Set of 4 images showing Ryle with a group of visitors.

From Acc 769/38.

K.157A Photographs of Ryle being awarded foreign membership of the Soviet Academy of Sciences.

See also A 233-4 and L 13-14

Acc 1787

K.157B Visit of the Dalai Lama to Lord’s Bridge, 1973

Includes a note on arrangements for the visit from John Robinson, Dean of Trinity College, University of Cambridge.

Acc 1787

K.157C Photographs of various occasions

Ryle at the radio telescope in Meudon, France, 1950; [?] photograph of a Ryle leading a tour of the site of the Mullard Radio Astronomy Observatory, 1953; [?] photograph relating to Ryle being awarded the Royal Society Hughes Medal for 1954; Ryle at the opening of The Man on the Moon pub, Cambridge, 1964; photograph of the plaque in honour of Ryle in Trinity College, University of Cambridge.

Acc 1787

K.158-K.167 PHOTOGRAPHIC SLIDES

n.d.

K.158 Family occasion

n.d.
1 colour slide.
From Acc 1128/1.

K.159-K.167 ‘R.A. Slides’
From an envelope so inscribed. 5 glass slides depicting figures, 1 colour slide of the 5 km telescope, 3 of unidentified locations.
From Acc 1128/1.

See also K.159-K.163.

K.168 ‘M.R.’s Graphs (can be marked with pentel and rubbed off)’
From a folder so inscribed, containing 4 plastic-coated graphs: ‘Flux density/Redshift Relationship for Einstein-de Sitter’; ‘Luminosity/Redshift Relationship for Einstein-de Sitter cosmology’; ‘Linear Proper Diameter/Redshift Relation; and ‘Mpg/Redshift Relationship (both curves for Einstein-de Sitter Cosmology)’.
From Acc 769/39.

Figures 1-4, annotated. 6 pieces in 3 folders.
For draft of the paper, see F.56-F.58; for proofs, see G.122.
From Acc 769/38.

K.172 Images obtained from the cathode-ray tube attached to the EDSAC ?II computer
2 items.
From Acc 769/19.
K.173, K.174
Set of 11 illustrations from an unidentified lecture or publication

Numbered. Chiefly maps of radio sources. In two sets: one reproduced on photographic paper, the other in the form of negatives (some of them in original tissue sleeves, inscribed).

2 folders.

From Acc 769/19.

K.175-K.179
Loose illustrations

From Acc 769/38: set of 3 re solar radiation, on cardboard (K.175); 1 each 'The background radiation at 3.7 M' and 'Conversion of equatorial coordinates into galactic coordinates' (K.176); and 3 unidentified (K.177).

From Acc 788/61: set of 4 negatives showing maps of radio sources. In original tissue sleeve and Kodak envelope (K.178).

From Acc 1183: 2 tracings of unidentified section of the radio sky, obtained by using series of photographs similar to those at K.172; maps of Cassiopeia at 1407 Mc/s and of Cygnus A. All on photographic paper (K.179).

3 folders.

K.180-K.201
DATA READINGS

See also D.72, K.86.

K.180-K.198
Data readings from Murday Recorder

Rolls of 176 mm chart with recordings in ink (red or blue).
Chart specifications: ‘Range: 0-1 0-1; Reference: L 384 C; Speed: 6 ins per hour’. In chronological order.

See also J.280.

From Acc 769/39 unless stated otherwise.

K.180
‘Cygnus + Cassiopeia’ and ‘17/12/50’

So inscribed. Annotated.
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<td>K.182</td>
<td>'178 Hi fi survey (slow) -&gt; 12:40 ST ~15:10 LT 17.8.52'</td>
<td>1952</td>
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<td>So inscribed.</td>
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<td>K.183</td>
<td>'25/1/53 ... 30/1/53'</td>
<td>1953</td>
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<td>So inscribed. Annotated.</td>
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<td>K.184</td>
<td>'5/2/53'</td>
<td>1953</td>
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<td>So inscribed. Annotated.</td>
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<td>K.185</td>
<td>'7.2.53' and 'N 42° 50x10 [etc.]'</td>
<td>1953</td>
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<tr>
<td>K.186</td>
<td>'~10:20' and '9.2.53'</td>
<td>1953</td>
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<td>So inscribed.</td>
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<td>K.187</td>
<td>'14:40 10/2/53'</td>
<td>1953</td>
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<td>So inscribed.</td>
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<td>K.188</td>
<td>'18/2/53 ... 27/2/53'</td>
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K.191  '4/4/53 ... 5/4/53'
So inscribed.

K.192  'ABCD' and '+27° slow + ?E Diam. -25/7/53'
In original box so inscribed. End roll further inscribed '18.7.53'.

K.193  '+07° slow + DIAM -> 27/10/53'
In original box so inscribed. Inscriptions on roll itself give date range as 7-13 October 1953.

K.194  'Hi fi survey 178 Mc/s' and '17/8/58' and 'removed 22/8/58'
So inscribed. Annotated.

K.195  'new aerial 3” per hour'
So inscribed. Roll (right half missing) and roll of negatives of another recording. Found inside cardboard tube inscribed 'Electrons paper'.

K.196-K.198 Unidentified n.d.
3 items, one of them (K.198) a photographic reproduction of a data reading.
K.198 is from Acc 769/38.

K.199  'Cygnus' and ‘31/7/57”'
So inscribed. Roll of 323 mm chart with recording in red ink. Annotated.
From Acc 769/39.

K.200  Unidentified n.d.
Roll of 88 mm chart with recording in turquoise ink. Of US extraction.
From Acc 769/39.
K.201  '12 positions (with credit)'  n.d.

So inscribed. Computer recording tape, possibly as seen at K.57 and in background of K.86.

From Acc 769/39.

K.202  VIDEO RECORDING  ?1981

1 cassette tape in original case, with copy of Southern Television application for preview of programme on nuclear war recorded 23 January 1981.

From Acc 1128/1.

K.203  STAMPS  1969

Exotic stamps featuring iconic objects of satellite communication. 5 items mounted on 2 envelopes.

From Acc 769/3.
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