

Supplementary catalogue of the papers and
correspondence of

Peter Howard Fowler FRS

(1923-1996)

By Caroline Thibeaud and Timothy E. Powell

NCUACS catalogue no.129/2/04

Title: Supplementary catalogue of the papers and correspondence of Peter Howard Fowler, FRS, (1923-1996), physicist.

Compiled by: Caroline Thibeaud and Timothy E. Powell

Date of material: 1960-1988

Extent of material: 13 boxes, 386 items

Deposited in: Special Collections, Arts & Social Sciences Library, University of Bristol

Reference code: GB 0003 DM 1967

© 2004 National Cataloguing Unit for the Archives of Contemporary Scientists, University of Bath.

NCUACS catalogue no. 129/2/04

The work of the National Cataloguing Unit for the
Archives of Contemporary Scientists in
the production of this catalogue is made possible
by the support of the following societies
and organisations:

The Heritage Lottery Fund

The Institute of Physics

The Macro Group UK

The Polymer Physics Group

The National Archives

NOT ALL THE MATERIAL IN THIS COLLECTION MAY YET
BE AVAILABLE FOR CONSULTATION. ENQUIRIES SHOULD
BE ADDRESSED IN THE FIRST INSTANCE TO:

SPECIAL COLLECTIONS ARCHIVIST,
ARTS & SOCIAL SCIENCES LIBRARY,
UNIVERSITY OF BRISTOL

LIST OF CONTENTS

| | | Items | Page |
|-------------------------|-----------------------------|-------------|-------|
| GENERAL INTRODUCTION | | | 5-7 |
| SECTION A | BIOGRAPHICAL | A.97-A.100 | 8 |
| SECTION B | UNIVERSITY OF BRISTOL | B.165-B.211 | 9-12 |
| SECTION C | BALLOON FLIGHTS | C.56-C.91 | 13-16 |
| SECTION D | RESEARCH | D.75-D.103 | 17-20 |
| SECTION E | DRAFTS AND PUBLICATIONS | E.69-E.99 | 21-24 |
| SECTION F | LECTURES | F.61-F.92 | 25-29 |
| SECTION G | VISITS AND CONFERENCES | G.33-G.96 | 30-38 |
| SECTION H | SOCIETIES AND ORGANISATIONS | H.347-H.444 | 39-49 |
| SECTION J | CORRESPONDENCE | J.109-J.155 | 50-52 |
| INDEX OF CORRESPONDENTS | | | 53-54 |

GENERAL INTRODUCTION

PROVENANCE

The papers were received from Mrs Rosemary Fowler, widow of Professor Fowler, in November 2003.

OUTLINE OF THE CAREER OF PETER HOWARD FOWLER

For an outline of Fowler's life and career see NCUACS catalogue 115/1/03.

DESCRIPTION OF THE COLLECTION

This supplementary collection is presented in the order given in the list of contents. It covers the period from 1960 to 1988. It should be consulted in conjunction with the principal body of Fowler papers catalogued as NCUACS 115/1/03.

Section A, Biographical, is the smallest section and includes Fowler's entries in professional registers such as *Who's Who* and press cuttings relating to his research on cosmic rays.

Section B, University of Bristol, includes correspondence, agendas, minutes and reports relating to University departmental committees. There is also material relating to teaching duties, examination and research supervision - including syllabuses, teaching timetables, student questionnaire results and analysis - and correspondence with prospective members of Fowler's Cosmic Rays Study Group.

Section C, Balloon flights, is arranged in chronological order and complements the earlier material catalogued in Fowler NCUACS 115/1/03. The bulk of the material relates to flights made between 1970 and 1975 launched from Palestine in Texas and Sioux Falls in South Dakota, USA. There is also a little material covering the transatlantic flights launched from Milo in Sicily. Documents include correspondence regarding balloon flight arrangements, project proposals, flight reports, copies of papers and lectures.

Section D, Research, mainly covers Fowler's cosmic ray research using balloons, cosmic ray detectors such as BUGS 4 and accelerator facilities including Nimrod and the University of Princeton Accelerator. The material comprises correspondence, proposals and grant applications, research outlines and reports. Other topics covered are the plastic track detector CR39 used to capture cosmic rays and the UK 6, Solar Flare and the Ariel 6 satellite programmes. There is a small sequence on Pi-mesons in cancer treatment.

Section E, Drafts and publications, is not extensive. It is arranged in chronological order from 1964 to 1979 and principally comprises drafts of Fowler's scientific papers, figures, tables and correspondence.

Section F, Lectures, principally relates to Fowler's public lectures, all on the topic of cosmic rays with the exception of his 1971 Rutherford Memorial Lecture on Pi-mesons in cancer treatment. The material comprises drafts, notes and correspondence from 1962 to 1987. There is a little academic teaching material and an Honorary Degree oration at the University of Bristol.

Section G, Visits and conferences, is one of the larger sections and complements previous material in NCUACS 115/1/03. It is arranged in chronological order from 1964 to 1987. Principal visits covered are a visit to the USSR in 1969, the Royal Society of New Zealand Rutherford Memorial Lecture Tour in 1971, a visit to the University of Chicago Enrico Fermi Institute in 1978 and International Union of Pure and Applied Physics International Cosmic Rays Conferences.

Section H, Societies and organisations, forms the largest section of the collection and documents Fowler's involvement with ten UK and international organisations. Bodies covered include the European Space Research Organisation (Fowler was a consultant, 1974-1977), Rolls-Royce plc (early consultancy work 1984-1987), the Royal Society (Fowler served on various British National Committees and there are documents relating to the administration and funding of his Research Professorship) and the Science Research Council (Fowler was involved with a number of committees mainly concerned with astronomy and grant allocation).

Section J, Correspondence, is divided into two sequences: an alphabetical sequence arranged by correspondence, and references and recommendations. Dates covered are 1966 to 1987. Correspondents are mainly scientific colleagues and historians of science, although there are no extended exchanges.

There is also an index of correspondents.

ACKNOWLEDGEMENTS

We should like to thank Mrs Rosemary Fowler for making the material available, her assistance in identifying and clarifying documents and for biographical information on her husband.

Caroline F. Thibeaud

Timothy E. Powell

Bath, 2004

| SECTION A | BIOGRAPHICAL, A.97-A.100 | 1963-1984 |
|-----------|--|-----------|
| A.97 | Entry for unidentified professional register. | 1973 |
| A.98 | Entries for <i>Who's Who of British Scientists</i> and <i>Who's Who in Science in Europe</i> . Manuscript notes and typescript entries. See also Fowler catalogue NCUACS 115/1/03 A.3-A.4. | 1983-1984 |
| A.99 | Certificate of Employment as Civilian Lecturer for Adult Education in H.M Forces. | 1963 |
| A.100 | Press cuttings <i>re</i> Fowler's research on cosmic rays in the <i>Financial Times</i> and the <i>University of Bristol Newsletter</i> . | 1972-1973 |

SECTION B UNIVERSITY OF BRISTOL, B.165-B.211 1964-1987

B.165-B.171 GENERAL CORRESPONDENCE

B.172-B.184 UNIVERSITY COMMITTEES AND CLUBS

B.185-B.211 DEPARTMENT OF PHYSICS

B.165-B.171 GENERAL CORRESPONDENCE 1964-1986

Correspondence *re* teaching and university matters, PhD students supervision, staff management and funding.

7 folders.

B.172-B.184 UNIVERSITY COMMITTEES AND CLUBS 1971-1987

See also Fowler catalogue NCUACS 115/1/03 B.1-B.29.

B.172 Cosmic Rays Study Group 1979-1980

Correspondence and memoranda.

See also Fowler catalogue NCUACS 115/1/03 B.30-B.153.

B.173 Departmental Committee on Technical Staff 1977

Note on the 15 February 1977 meeting.

B.174-B.177 Physics Steering Committee 1971-1976

B.174 Correspondence and miscellaneous documents *re* Chair of Physics, administrative organisation and members of staff. 1973-1976

University of Bristol

- | | | |
|--------------------|--|------------------|
| B.175-B.177 | Agenda and minutes. 3 folders. | 1971-1976 |
| B.178-B.181 | Radiation Protection Subcommittee See also Fowler catalogue NCUACS 115/1/03 B.15-B.28. | 1978-1980 |
| B.178 | Correspondence. | 1978-1979 |
| B.179 | Agenda and minutes. | 1978-1980 |
| B.180, B.181 | Reports and review. 2 folders. | 1979 |
| B.182 | Safety Consultative Committee Minutes. | 1979 |
| B.183 | Safety Executive Committee Agenda and minutes. | 1978-1979 |
| B.184 | University Space Club UK Space Policy report. See also Fowler catalogue NCUACS 115/1/03 B.29. | 1987 |

University of Bristol

| | | |
|--------------------|--|------------------|
| B.185-B.211 | DEPARTMENT OF PHYSICS | 1964-1986 |
| B.185-B.190 | Academic staff meetings agenda and minutes. 6 folders. | 1964-1968 |
| B.191 | Lists of members of staff. | 1964-1966 |
| B.192-B.195 | Memoranda. 4 folders. | 1964-1986 |
| B.196 | Committee of Professors Correspondence and minutes. | 1976-1981 |
| B.197-B.199 | Syllabuses, lecture duties and examinations. Includes note and memoranda <i>re</i> preparation of examinations, allocation of teaching duties and lecture timetables. 3 folders. | 1964-1975 |
| B.200 | Lists of candidates for higher degrees. | 1965-1974 |
| B.201 | Typescript notes on research supervision. Also includes a research expenditure budget for 1966-1967. | 1966-1977 |
| B.202 | Student and graduate questionnaire returns and comments. | 1965-1981 |

University of Bristol

- | | | |
|-------------|--|-----------|
| B.203-B.207 | 'Application to join P.H.F's group.' Folder so inscribed. Correspondence, CVs, lists of publications. 5 folders. | 1970-1984 |
| B.208-B.211 | Research Assistantship. 4 folders. | 1973-1974 |

| SECTION C | BALLOON FLIGHTS, C.56-C.91 | 1970-1979 |
|-----------|--|-----------|
| C.56 | Project proposal submission. The project was based on measurement of the abundance of ultra-heavy elements in primary cosmic rays. | c.1970 |
| C.57-C.60 | General correspondence. Correspondence <i>re</i> the design and production of material and instruments, balloon flights organisation and description, budget. 4 folders. | 1971-1979 |
| C.61-C.65 | 'Balloon Flight 1971'. Folder so inscribed. Correspondence <i>re</i> flight arrangements. Also includes manuscript notes. Flights were launched from Sioux Falls, South Dakota in collaboration with the Dublin Institute of Advanced Studies and from Palestine, Texas in May 1971. 5 folders. | 1971-1972 |
| C.66-C.71 | 'Balloon Flight 1972'. Folder so inscribed. | 1971-1973 |
| C.66-C.69 | Correspondence <i>re</i> flight arrangements. The flight was launched from Sioux Falls in May 1972. 4 folders. | 1971-1972 |
| C.70 | Technical outlines and preliminary study. Documents entitled 'Preliminary Study of the Charge Spectrum of Ultra Heavy Cosmic Rays Primaries' and technical outline of National Center for Atmospheric Research Balloon Instrumentation Package and Ground Station. | 1972-1973 |

Balloon Flights

- | | | |
|------------|---|-----------------------|
| C.71 | Flight supporting documents. Includes balloon specification, summary data of the 1972 flight, customs and transport forms, invoice and one photograph. | 1972 |
| C.72, C.73 | 'Balloon Flight 1973.' Folder so inscribed. Correspondence <i>re</i> flight arrangements. Flights were launched from Sioux Falls in September 1973. 2 folders. | 1972-1973 |
| C.74-C.77 | 'Balloon Flights 1974.' Folder so inscribed. Correspondence <i>re</i> flight arrangements. Also includes manuscript and typescript notes and a report on BUGS flight failure. Two flights were launched in 1974. The first flight took place in April 1974 in Palestine, Texas with BUGS 2, a balloon-borne gas scintillation detector for cosmic rays. However the balloon crossed the launch site power line and was immediately destroyed. The other flight was launched from Sioux Falls in September 1974 and floated for 123 hours setting a new world record of endurance for a zero pressure balloon. 4 folders. | 1974 |
| C.78, C.79 | 1975 flight. Correspondence <i>re</i> flight arrangements, memorandum and copy of a talk by Luis. W. Alvarez entitled 'Analysis of a reported magnetic monopole' with manuscript note addressed to Fowler. The flight was launched from Palestine, Texas in February 1975. 2 folders. | 1975 |
| C.80-C.89 | 'Transatlantic Balloon Flight Facility'. Folder so inscribed. Fowler and Dr Ramsden of Southampton University in | 1973-1976 /... |

Balloon Flights

- /... collaboration with Appleton Laboratory in Slough researched and developed a Transatlantic Balloon Facility. A balloon was launched from Milo in Sicily at the end of July 1975 which landed in the United States.
- C.80 Correspondence. 1973-1976
- Correspondence *re* flight arrangements, research, proposal, congratulations on the success of the operations.
- Documents cover the transatlantic flight as well as later tandem balloon system flights launched from Sioux Falls in late 1975.
- C.81-C.84 Grant application to the Science Research Council. 1974
- Completed application and accompanying documents including tables with comments, figures, typescript draft entitled 'Experimental Results' and manuscript notes written by colleagues.
- 4 folders.
- C.85 Copy of a tentative proposal *re* the transatlantic balloon facility and notes on meetings at the Appleton Laboratory. 1973-1974
- C.86 Comments and notes by the Appleton Laboratory and the National Scientific Balloon Facility. 1974-1975
- C.87 Outlines and papers. 1973-1974
- C.88 Draft entitled 'Tandem System for Heavy Long Duration Flights.' c. 1975
- C.89 Press release and other information. 1975-1976
- Includes technical specifications and budget.

Balloon Flights

- | | | |
|------|--|------|
| C.90 | 'LDEF Flight Facility'. Folder so inscribed. Correspondence <i>re</i> flight proposal and arrangements. Fowler submitted a proposal to NASA in November 1976 for a joint Long Duration Exposure Facility (LDEF) experiment to study the ultra heavy cosmic rays. | 1976 |
| C.91 | Plans, March 15 1976. Plans entitled: 'Load Skirt Assembly', 'Sphere Assembly' and 'Modified Bear Paw Patch'. | 1976 |

| SECTION D | RESEARCH, D.75-D.103 | 1963-1986 |
|------------|--|------------------|
| D.75 | <p>Pi Meson research.</p> <p>Manuscript notes and calculations of Dr Valerie Clapham (nee Mayes). Notes by Clapham explain: 'Original measurements and calculations on the first observed Pi-Meson (one of the decay modes of the K meson) loose sheet (in other hand) was written by a visiting Japanese professor [probably Hideki Yukawa] to explain grain density measurements to me (a new postgraduate student in autumn 1959).'</p> <p>See also Fowler catalogue NCUACS 115/1/03 D.5-D.21.</p> <p>Dr Valerie Clapham (nee Mayes) was a research colleague of Fowler. They collaborated on Pi Meson radiotherapy research.</p> | c.1963-1964 |
| D.76 | <p>Experiment on Nimrod.</p> <p>Proposal entitled 'A Proposal to Check CP Violation in K2 Decay' and 'An Experiment at NIMROD to Determine the K/Pi Mass Ratio.'</p> <p>See also Fowler catalogue NCUACS 115/1/03 D.5-D.9</p> | 1964-1965 |
| D.77, D.78 | <p>'Intensity Emulsion.'</p> <p>Correspondence <i>re</i> supply of material and research. Also includes two reports in French.</p> <p>2 folders.</p> | 1968-1970 |
| D.79-D.81 | <p>Correspondence <i>re</i> flights and experiment preparation between 1968 and 1975.</p> <p>Also includes correspondence <i>re</i> purchase and delivery of materials and equipment, collaboration with colleagues at home and abroad, processing of results.</p> <p>3 folders.</p> | 1968-1975 |
| D.82 | <p>'Outline of research in the period October 1969-1974 and possible future programme.'</p> | 1974 /... |

Research

- /... 7pp typescript with photocopied photograph.
Fowler's research concentrated on the measurement of the charge and energy spectrum of the ultra heavy component of the cosmic radiation.
- D.83, D.84 'Princeton Accelerator' Folder so inscribed. 1971-1972
Correspondence *re* proposal and preparation to use the Princeton accelerator for Fowler's research. Also includes a sheet of proposal information, memorandum and two Princeton Particle Accelerator newsletters.
Fowler used the Princeton Accelerator to pursue research on the response of emulsion to heavy ions at high energy and investigate nuclear interactions.
2 folders.
- D.85 Grant application to the Science Research Council. 1972
The grant application was to investigate the charge spectrum of cosmic ray particles.
- D.86 'Frascati, European Programme A-HEAO C, B- UK6 from Hovestadt.' Folder so inscribed. 1974
4pp typescript entitled 'High Energy Cosmic Ray Experiment, as possible candidate for ESRO Scientific Mission Study.' Also includes a 5pp typescript with figures and photographs entitled 'Cosmic rays summary, Frascati 24 October 1974.'
- D.87-D.97 'BUGS 4.' Folder so entitled. 1977-1986
BUGS 4 was a large cosmic rays detector and Fowler proposed to measure the charge and energy spectrum of the ultra-heavy cosmic rays.
- D.87-D.90 Correspondence. 1977-1986
Correspondence *re* the specifications of BUGS 4 and its construction, past and present experiments by Fowler and colleagues, funding, etc.
4 folders.

Research

- | | | |
|-------------|--|-------------|
| D.91-D.93 | Grant applications and 8pp typescript on large area detector. A grant was sought to 'complete the construction, flight and subsequent analysis of BUGS 4.' Another was sought to 'construct and fly a balloon borne cosmic ray detector of large area.' 3 folders. | c 1979-1980 |
| D.94-D.96 | Accompanying documents. Includes documents entitled: 'Comparison of BUGS 4 with Chicago Shuttle Experiment', ' Consideration of the Effects of Random Coincidences in BUGS 4', general information <i>re</i> the experiments and annual report on a Science Research Council grant. 3 folders. | 1978-? |
| D.97 | Invoices <i>re</i> supply of materials. | 1985-1986 |
| D.98, D.99 | 'CR 39.' Folder so inscribed. CR 39 is a plastic track detector used to capture traces of cosmic rays. | 1978-1982 |
| D.98 | Correspondence. Correspondence <i>re</i> tests on CR 39 properties and its suitability for cosmic rays research, experiment and flight preparation. | 1978 |
| D.99 | Reports and technical description. Reports are entitled 'Brief interim report of studies on CR 39 up to 8 June 1978 to be considered with University of Bristol grant application...' and manuscript notes entitled 'Polycarbonate resin CR 39'. | 1980, 1982 |
| D.100-D.102 | UK 6 and Solar Flares programme and Ariel 6 satellite. | 1978-1982 |

Research

- D.100 Correspondence *re* collaboration with NASA and the 1978-1982
Astronomy and Solar Systems Committees of the
Science Research Council.

Also includes correspondence *re* Fowler's visit to the
USA to discuss the collaboration, Ariel 6 satellite and
collaboration with NASA.
- D.101, D.102 Reports entitled 'UK6 and Solar Flares', 'UK6 Bristol c.1979-1980
Experiment Technical Description' and 'Ariel 6 Bristol
University ultra heavy cosmic rays experiment'.

2 folders.
- D.103 3pp typescript and manuscript entitled 'The Y-ray c.1981
experiment on HEAO-C.'

| SECTION E | DRAFTS AND PUBLICATIONS, E.69-E.99 | 1960-1987 |
|-----------|--|--------------|
| E.69 | General correspondence <i>re</i> publications and requests for articles. | 1972-1976 |
| E.70 | 'Report on the dose due to neutrons at 37,000 ft (220 gm/cm ²) atmospheric depth', with P.J. Davison and N.R. Nutt, University of Bristol, 1964. 8pp typescript draft. See also F.71, F.72 and Fowler catalogue NCUACS 115/1/03 E.23. | 1964 |
| E.71 | Correspondence <i>re</i> 'Therapeutic applications of beams of negative Pi-mesons' (1960) by Fowler. Also includes a paper by David Geraghty entitled 'Can Cancer be treated by confining beams of charged elementary particles to the cancer region using high magnetic fields?' | 1965 |
| E.72 | 'Short track analysis for recognition of star in silver bromide', c.1960. Includes 11pp typescript and manuscript draft with tables. | c.1960 |
| E.73-E.75 | 'Capture of Pi-mesons in oxygen and other nuclei', with V.M. Mayes, <i>Proceedings of the Physical Society</i> , Vol. 92 (1967), pp 377-89. See also Fowler catalogue NCUACS 115/1/03 E.25. | 1967 |
| E.73 | Correspondence <i>re</i> publication. | 1967 |
| E.74 | 19pp typescript draft with tables. | 1967 |
| E.75 | Background material and figures. | n.d |
| E.76 | 'Track structure in photographic emulsion', <i>Proceedings</i> | 1972 /... |

Drafts and Publications

- /... *of the 4th International Congress of Radiation Research, Evian, France, 1972.*
- Includes a letter *re* publication and 5pp typescript draft.
- See also Fowler catalogue NCUACS 115/1/03 E.32.
- The paper was delivered at the 4th International Congress of Radiation Research in Evian, France, 28 June- 4 July 1970.
-
- E.77, E.78 'Heavy galactic particles', *Proceedings of the 4th International Congress of Radiation Research, Evian, France, 1972.* 1970
- Correspondence *re* publication and 6pp typescript draft with tables and figures.
- See also Fowler catalogue NCUACS 115/1/03 E.31.
- The paper was delivered at the 4th International Congress of Radiation Research in Evian, France, 28 June-4 July 1970.
- 2 folders.
-
- E.79 'X-ray fluorescence telescope - A proposal to measure the diffuse X-ray background by a new technique', with R.M. Redfern, University of Bristol, November 1972. 1972
- 8pp typescript with figures and tables.
-
- E.80 'Ultra-heavy cosmic ray abundance measurements with a large gas scintillation detector', with R.J. Edge, R.T. Moses, N.O. Tatham, C.Thoburn, R.N.F. Walker and A.Worley, University of Bristol, c.1977. 1977
- 8pp typescript draft with figures and tables.
- See also Fowler catalogue NCUACS 115/1/03 E.44.
-
- E.81-E.84 'Do comets provide materials for the anomalous component of the cosmic rays?', with R.M. Redfern and S.P. Swordy, *Nature*, 1979. 1979

Drafts and Publications

- | | | |
|------------|--|--------|
| E.81 | Correspondence <i>re</i> publication. Also includes referee's comments and two drafts with figures and tables. | 1979 |
| E.82 | Grant application submission to study 'the anomalous component of the cosmic radiation.' | 1979 |
| E.83, E.84 | 'Figures - Do not lose or mutilate'. Folder so inscribed. 2 folders. | 1979 |
| E.85-E.92 | 'An experiment to investigate the anomalous component of low energy cosmic rays, an outline of an experiment for space shuttle exposure', with R.M. Redfern and S.P. Swordy, University of Bristol, April 1979. 27pp and 31pp typescript drafts with figures and tables. Material also includes a 4pp typescript entitled: 'A proposed ultra heavy cosmic rays detector for space shuttle exposure.' See also Fowler catalogue NCUACS 115/1/03 E.46. 8 folders. | 1979 |
| E.93, E.94 | 'Track definition system.' 13pp typescript draft with figures. 2 folders. | n.d. |
| E.95 | 'Chance fluctuations in γ -rays or no?' 3pp typescript and manuscript draft. | n.d. |
| E.96 | Tables for unidentified publication, c.1973. First table reads 'Abundance values and ionisation potentials for the lighter elements.' | c.1973 |

Drafts and Publications

| | | |
|-----------|---|-----------|
| E.97-E.99 | 'Requests for publication of pictures.' Folder so inscribed. Correspondence. 3 folders. | 1972-1987 |
|-----------|---|-----------|

SECTION F **LECTURES, F.61-F.92** **1962-1987**

F.61, F.62 **UNIVERSITY TEACHING** **1968-1969**

Contents of folder entitled 'Atomic and Nuclear Physics Lecture Course Stage I 1968/1969. Contents:1-Original proposed 1st year syllabus, 2-Powell's hand out of his proposed syllabus, 3-The three problem sheets and their solutions set on the course.'

2 folders.

F.63-F.66 **INVITATIONS TO LECTURE** **1966-1987**

Correspondence *re* invitations to lecture and/or to visit and attend special events.

4 folders.

F.67-F.92 **CONFERENCE AND PUBLIC LECTURES**

F.67-F.70 Rutherford Memorial Lecture 'Pi Meson Versus Cancer', various venues, 1964. 1962-1965

See also Fowler catalogue NCUACS 115/1/03 F.15-F.17.

F.67 Correspondence *re* invitation to lecture and to publish. 1964-1965

F.68-F.70 Background information. 1962
3 folders.

F.71, F.72 'Cosmic ray dose rate at 37,000' with P.J.N. Davison and N.R. Nutt', L.H. Gray Conference, Cambridge, 8-11 April 1969. 1969

Lectures

8pp typescript draft with figures and tables.

2 folders.

| | | |
|-----------|--|------------------|
| F.73-F.76 | 'Orator for Hon. Degrees, 12 July 1972.' Folder so inscribed. University of Bristol Degree Ceremony, 12 July 1972. Fowler was asked to prepare an oration for honorary graduates Margaret Burbidge and John Burrow. | 1972 |
| F.73 | Correspondence <i>re</i> request of information on the two Honorary Graduates. | 1972 |
| F.74 | 3pp typescript draft on John Henry Burrow. Also includes manuscript notes. | 1972 |
| F.75 | 3pp typescript draft on Eleanor Margaret Burbidge. Also includes manuscript notes. | 1972 |
| F.76 | Manuscript notes on Ernest Francis from F.C. Frank and addressed to Fowler. Found with preceding material. | n.d. |
| F.77 | 'Nature and fluxes of radiation at high altitudes', Society of Radiological Protection meeting, Imperial College, London, 10 October 1972. 6pp typescript draft with tables and figures. See also Fowler catalogue NCUACS 115/1/03 F.21. | 1972 |
| F.78 | Untitled lecture, occasion unknown, Durham, April 1973. 12pp manuscript draft starting: 'Tracks of Ultra Heavy Cosmic Rays were discovered in 1966 by F, W and P in | 1973 /... |

Lectures

- /... their studies of fossil tracks in meteorites and at the same time in our own balloon experiments using photographic emulsion.'
- F.79 'Ultra heavy cosmic rays', 13th International Cosmic Rays Conference, Denver, Colorado, August 1973. 1973
- 7pp typescript draft with figures and tables.
- See also Fowler catalogue NCUACS 115/1/03 F.22.
- F.80 'The charge spectrum for the cosmic rays', Herstmonceux Conference, undated. ? 1973
- 10pp typescript and manuscript draft.
- See also Fowler catalogue NCUACS 115/1/03 F.22.
- Fowler gave a lecture similarly entitled 'The charge and energy spectrum of ultra heavy cosmic rays primaries' in 1973.
- F.81 'Big balloons for scientific research', public lecture, occasion unknown. ? 1974
- 5pp typescript draft with tables and transparencies.
- F.82 'Ultra heavy cosmic rays', Research Colloquium Oxford, 1 March 1974. 1974
- 5pp manuscript draft.
- F.83 'Current programme in Europe', European Research Organisation Workshop, Frascati, Italy, 1975. 1975
- 6pp typescript draft with figures.
- See also D.86 and Fowler catalogue NCUACS 115/1/03 F.23.

Lectures

- | | | |
|------------|---|-----------|
| F.84 | 'The ultra heavy cosmic rays', Interfaculty Scheme of University Lectures in Astronomy, Imperial College, London, 27 November and 4 December 1975. Poster advertising the lecture and correspondence <i>re</i> payment. See also F.79. | 1975 |
| F.85-F.87 | 'Cosmic radiation, its significance and its origin', Royal Institution Lecture, London, 26 May 1977. See also Fowler catalogue NCUACS 115/1/03 F.27, F.28. | 1977 |
| F.85 | Correspondence <i>re</i> arrangements and publication in the <i>Proceedings of the Royal Institution</i> . | 1976-1979 |
| F.86, F.87 | Three typescript drafts. 2 folders. | 1977 |
| F.88, F.89 | 'Ultra heavy cosmic rays', Meeting of the Irish Astronomical Science Group, Armagh, Ireland, 2 April 1985. Correspondence and 11p typescript lecture notes with tables and figures. The material was found in a folder entitled 'Talks Dublin and Armagh 1 and 2 April 1985' suggesting the lecture was also delivered in Dublin. 2 folders. | 1985 |
| F.90 | 'Colloq Pi-Meson discoveries', International Conference to Celebrate the 40th Anniversary of the Discovery of the Pi - Meson, University of Bristol, 22-24 July 1987. 9pp manuscript draft. See also Fowler catalogue NCUACS 115/1/03 G.20. | 1987 |

Lectures

- | | | |
|------|--|------|
| F.91 | Untitled lecture starting 'the story of my belonging to Cecil Powell's group on the 4th floor of the Royal Fort occurred in 1941 when as a student I did microscope work on nuclear physics using the photographic method.' occasion unknown, undated. | n.d. |
| | 5pp manuscript lecture note draft. | |
| F.92 | Untitled, occasion unknown. | n.d. |
| | 4pp typescript lecture notes starting 'In this talk I plan to discuss briefly the research we are doing and hope to do in the coming years in the field of Astrophysics and Particle Physics.' | |

| SECTION G | VISITS AND CONFERENCES, G.33-G.96 | 1964-1987 |
|------------|---|-----------|
| G.33-G.37 | <p>'Aldermaston Meeting on Tuesday October 27th 1964. In AWRE, Aldermaston, room 23 at 11am.' Folder so inscribed.</p> <p>Documents presented at the meeting including agenda of the meeting and list of visitors. Includes interim reports entitled: 'Measurement of galactic cosmic radiation at solar minimum 1964', 'Collection of radiation data in commercial aircraft, June to September 1964' and a report with figures on the 1964 balloon flights at Fort Churchill, Manitoba, Canada.</p> <p>The Aldermaston meeting was a joint RAE/Atomic Weapons Research Establishment (AWRE) meeting on stratospheric radiation hazard.</p> <p>5 folders.</p> | 1964 |
| G.38 | <p>International Union of Pure and Applied Physics Conference on Cosmic Rays, Imperial College, London, September 1965.</p> <p>Letter and 2pp preface to the proceedings of the conference.</p> | 1965 |
| G.39-G.44 | <p>Visit to Chicago, USA, 2-15 December 1967.</p> <p>Fowler visited Chicago to attend the International Commission on Radiation Units (ICRU) task group on energy accelerators and space radiation dosimetry. This task group was concerned with the standardisation of dosimetry of radiation fields associated with high energy accelerators and cosmic radiations.</p> <p>He was also invited to lecture on cosmic rays at the University of California in Berkeley and visited the National Center of Atmospheric Research at Boulder, Colorado to prepare a balloon flight.</p> | 1967-1973 |
| G.39, G.40 | <p>Correspondence <i>re</i> arrangements and payments for seminars.</p> <p>2 folders.</p> | 1967-1968 |

Visits and Conferences

| | | |
|------------|---|------------|
| G.41 | List of participants of ICRU and list of link organisations. | 1967, 1973 |
| G.42 | 5pp typescript draft on cosmic rays. | 1967 |
| G.43 | Travel expenses. | 1967 |
| G.44 | Background information on the National Center for Atmospheric Research computing facility in 1967. | 1967 |
| G.45 | Conference on Chemical Composition of Cosmic Rays Cambridge, 16-19 July 1968. Correspondence <i>re</i> arrangements. Also includes a preliminary list of delegates and preliminary programme. | 1967-1968 |
| G.46-G.48 | Visit to Moscow, February-March 1969. Fowler was first invited to visit the USSR in 1968 but had to decline due to other commitments. He visited the Soviet Union for 5 weeks between 21 February and March 1969. He may also have visited Poland. | 1965-1969 |
| G.46, G.47 | Correspondence <i>re</i> arrangements. 2 folders. | 1968-1969 |
| G.48 | General information on the USSR from the Royal Society. Also includes reports of scientists' visit to the USSR from J.W. Dungey, D. Shoenberg, S.A. Dunne and T.J.G. Francis. | 1965-1967 |
| G.49 | Explanatory text for exhibition of photographs on particle tracks in photographic emulsion, occasion unknown, c.1969. 8pp typescript. | c.1969 |

Visits and Conferences

- | | | |
|------------|---|-----------|
| G.50, G.51 | <p>International Conference on Heavy Ion Physics, Dubna, USSR, 11-17 February 1971.</p> <p>Fowler lectured on 'The Highest charges in the cosmic rays primaries'.</p> | 1970-1971 |
| G.50 | <p>Correspondence <i>re</i> arrangements.</p> <p>Found with this material is correspondence <i>re</i> photographs of Rutherford's daughter for the 13th International Congress of the History of Science celebrating the Centenary of Rutherford's birth.</p> | 1970-1971 |
| G.51 | <p>Preliminary programme.</p> | 1971 |
| G.52 | <p>'Radiation at High Altitude', Society for Radiological Protection meeting, Bristol, Summer 1971.</p> <p>Correspondence <i>re</i> arrangements.</p> <p>The meeting was cancelled due to time pressure.</p> | 1970-1971 |
| G.53 | <p>12th IUPAP International Conference on Cosmic Rays, University of Tasmania, Hobart, Australia, 16-25 August 1971.</p> <p>Correspondence <i>re</i> arrangements and travel grant applications.</p> | 1971 |
| G.54-G.59 | <p>The Royal Society of New Zealand Rutherford Memorial Lecture tour, New Zealand, August-September 1971.</p> <p>On the occasion of the Rutherford Centenary celebrations Fowler lectured on 'Tracks of Atomic Particles Ancient and Modern', 'Evolution of Elements' and 'Rutherford Scientific Contributions'. He visited Nelson, Christchurch, Dunedin, Wellington, Auckland and Hamilton.</p> | 1970-1973 |

Visits and Conferences

- | | | |
|-----------|--|-----------|
| G.54-G.57 | Correspondence <i>re</i> arrangements. Also includes correspondence <i>re</i> Fowler's recollection of his grandfather Lord Rutherford. 4 folders. | 1970-1973 |
| G.58 | 'Copy of the handwritten notes I used for my talk at Southwell School, Hamilton' 2pp typescript. Also includes a copy of the Rutherford High School magazine where Fowler lectured. | 1971-1972 |
| G.59 | List of requests for reprints of Fowler's Rutherford lecture. | 1971 |
| G.60 | Committee on Space Research (COSPAR) meeting, Madrid, Spain, 10-24 May 1972. Correspondence <i>re</i> invitation to attend and lecture. Fowler was invited to talk on the observation of frequency of heavy ions in the atmosphere. | 1972 |
| G.61 | Conference on Cosmic Rays and Nuclear Physics in honour of Professor G.D. Rochester, University of Durham, 26-27 April 1973. Correspondence <i>re</i> arrangements. Fowler lectured on ultra heavy primaries. | 1973 |
| G.62 | 1973 International Conference on Instrumentation for High Energy Physics, Frascati, Italy, 8-12 May 1973. Correspondence <i>re</i> participants. | 1973 |
| G.63 | 13th IUPAP International Cosmic Rays Conference, Denver, Colorado, USA, 17-30 August 1973. Correspondence <i>re</i> abstract of Fowler's paper entitled 'Ultra heavy cosmic rays primaries'. Also includes general information sent to delegates. | 1973 |

Visits and Conferences

- | | | |
|------|---|------|
| G.64 | International Conference on Elementary Particles, Aix-en-Provence, France, 6-12 September 1973. Letter <i>re</i> suggested participants. | 1973 |
| G.65 | International Conference on High Energy Physics, London, 1-10 July 1974. Correspondence <i>re</i> suggested participants. | 1974 |
| G.66 | Origin of Cosmic Rays, NATO Advanced Study Institute, University of Durham, 26 August-6 September 1974. Correspondence and first circular. | 1974 |
| G.67 | Conference on Physics at Ultra High Energies, Westfield College, University of London, 4-6 September 1974. Correspondence <i>re</i> arrangements. In the event Fowler was unable to attend as he was in the USA for a balloon flight operation. | 1974 |
| G.68 | 2nd Symposium on Neutron Dosimetry in Biology and Medicine, Munich, West Germany, 30 September-4 October 1974. Conference information. | 1974 |
| G.69 | International Conference on Elementary Particles, Palermo, Italy, 23-28 June 1975. Correspondence <i>re</i> suggested participants. | 1975 |
| G.70 | 5th European Cosmic Ray Symposium, Leeds, 14-17 September 1976. Correspondence <i>re</i> arrangements. | 1976 |

Visits and Conferences

- G.71 Space Science Department internal seminars, European Space Research and Technology Centre, Noordwijk, The Netherlands, 29 April 1977. 1976-1977
- Correspondence *re* arrangements.
- Fowler lectured on High Z Cosmic Rays.
- G.72 7th International Conference on Amorphous and Liquid Semiconductors, Edinburgh, 27 June-1 July 1977. 1977
- Correspondence *re* arrangements.
- G.73 15th International Cosmic Rays Conference, Plovdiv, Bulgaria, 13-26 August 1977. 1977
- Correspondence *re* arrangements.
- G.74 Visit to the University of Chicago Enrico Fermi Institute, January 1978? 1978
- Correspondence *re* Fowler's invitation. Also includes announcements on the workshop on high energy neutrino astronomy.
- See also Fowler catalogue NCUACS 115/1/03 G.11.
- Fowler was invited to be Distinguished Visiting Professor at the Enrico Fermi Institute and Department of Physics of the University of Chicago for a term. He decided to visit for a duration of six weeks only. He lectured at the Fermi Institute on High Heavy Cosmic Rays.
- G.75 British Nuclear Energy Society International Conference on Radiation Protection in Nuclear Plants and the Fuel Cycle, Bristol, 27 November-1 December 1978. 1978
- Correspondence *re* arrangements.
- G.76 IUPAP International Cosmic Rays Conference, Kyoto, Japan, 6-18 August 1979. 1978-1979
/...

Visits and Conferences

- /... Correspondence *re* travel grant, list of invited delegates and chairmanship. Also includes travel information and first circular of the conference.
- Fowler chaired the Nuclear Composition session.
- G.77 Conference on Origin of Cosmic Rays, International Union of Pure and Applied Physics/International Astronomical Union, Bologna, Italy, 11-14 June 1980. 1980
- Letter *re* arrangements and provisional programme.
- Fowler lectured on heavy cosmic rays.
- G.78 COSPAR Workshop on Needs for International Scientific Balloon Launching Facilities in the Southern Hemisphere, Buenos Aires, Argentina, 23-26 March 1981. 1981
- Letter *re* balloon flights and list of participants. Also includes a report of the Panel on Technical Problems and a joint report on the conference by Fowler and Dr D. Ramsden.
- Fowler introduced the first session on the range of experiments needed to set up the Southern Hemisphere facilities.
- G.79 11th International Conference on Solid State Nuclear Track Detectors, University of Bristol, 7-12 September 1981. 1981
- Correspondence *re* invitation, request for funding and organisation of the conference.
- See also Fowler catalogue NCUACS 115/1/03 G.14.
- Fowler was chairman of the conference.
- G.80 Visit to the Lawrence Radiation Laboratory, University of California, Berkeley, USA, January 1983. 1983
- Letter *re* purpose of Fowler's visit.
- Fowler carried out experiments at the laboratory on photographic emulsion.

Visits and Conferences

- | | | |
|-----------|---|-----------|
| G.81 | Conference on Cosmic Rays and High Energy Gamma Ray Experiments for the Space Station ERA, Louisiana State University, Baton Rouge, USA, 17-20 October 1984. Conference information. | 1984 |
| G.82 | International Symposium on Particle Physics in the 1950's: Pions to Quarks, Fermi National Accelerator Laboratory, Batavia, Illinois, USA, 1-4 May 1985. Invitation. | 1985 |
| G.83-G.85 | 19th IUPAP International Conference on Cosmic Rays, La Jolla, California, USA, 11-23 August 1985. Fowler attended the conference. He appears to have lectured on 'Ariel 4 measurements of ultra-heavy cosmic ray fluxes in the region $34 < Z < 48$.' | 1984-1985 |
| G.83 | Correspondence <i>re</i> travel grants | 1984-1985 |
| G.84 | Conference information. Includes typescript notes on the Shakti P. Duggal Award, and copy of a paper by Fowler et al entitled 'Ariel 4 measurements of ultra-heavy cosmic ray fluxes in the region $34 < Z < 48$.' | 1984-1985 |
| G.85 | Details of expenses, etc. | 1985 |
| G.86 | 13th International Conference on Solid State Nuclear Track Detectors, Rome, Italy, 23-27 September 1985. Correspondence <i>re</i> arrangements. Fowler was invited to give a talk but declined the invitation. | 1985 |

Visits and Conferences

- | | | |
|------------|--|-----------|
| G.87 | <p>Royal Astronomical Society Mason Conference on Element Abundance in Different Astrophysical Environments, University of Bristol, 27-28 August 1986. The conference was part of the British Association for the Advancement of Science annual meetings for 1986.</p> <p>Correspondence and papers <i>re</i> arrangements.</p> <p>Fowler's lecture is titled 'The cosmic rays and overall summary'.</p> | 1986 |
| G.88, G.89 | <p>20th International Cosmic Rays Conference, Moscow, USSR, 2-15 August 1987.</p> <p>Fowler was invited as a guest of the Academy of Sciences of the USSR. He lectured on 'Performance as a Particle Detector of the Bristol Cosmic Ray Instrument on the Ariel 6 Satellite.'</p> | 1986-1987 |
| G.88 | <p>Correspondence <i>re</i> arrangements.</p> | 1986 |
| G.89 | <p>Circulars, application forms and abstract of Fowler's paper 'Performance as a Particle Detector of the Bristol Cosmic Ray Instrument on the Ariel 6 Satellite.'</p> | 1986-1987 |
| G.90 | <p>22nd International Cosmic Rays Conference, Dublin Institute of Advanced Studies, Dublin, Ireland, 28 September 1987.</p> <p>Letter <i>re</i> arrangements.</p> | 1987 |
| G.91-G.94 | <p>Miscellaneous conference brochures 1967-1979.</p> <p>4 folders.</p> | 1967-1979 |
| G.95, G.96 | <p>Miscellaneous correspondence <i>re</i> travel claims for visits.</p> <p>Also includes invoices and payment receipts.</p> <p>2 folders.</p> | 1972-1986 |

SECTION H SOCIETIES AND ORGANISATIONS, H.347-H.444 1967-1988

- H.347-H.353 EUROPEAN SPACE RESEARCH ORGANISATION
- H.354 HERSCHEL HOUSE TRUST
- H.355, H.356 INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS
- H.357 MEDICAL RESEARCH COUNCIL
- H.358-H.376 ROLLS ROYCE
- H.377 ROYAL ASTRONOMICAL SOCIETY
- H.378-H.418 ROYAL SOCIETY
- H.419 SCIENCE AND ENGINEERING RESEARCH COUNCIL
- H.420-H.443 SCIENCE RESEARCH COUNCIL
- H.444 UNIVERSITY OF EDINBURGH

H.347-H.353 EUROPEAN SPACE RESEARCH ORGANISATION 1972-1977

Fowler was appointed for a series of consultancies at the European Space Research Organisation (ESRO). His first appointment was in 1974 to 'define the scientific mission and the model payload of a cosmic ray investigation'. He also investigated 'work related to Superconducting Magnet Facility definition' in 1976 and 1977.

H.347-H.349 Correspondence *re* Fowler's series of consultancy appointments, ESRO workshops and meetings arrangements, publication of paper. 1972-1977

3 folders.

Societies and Organisations

- | | | |
|--------------|--|--------------------|
| H.350, H.351 | Cosmic rays investigation consultancy. | 1974 |
| | <p>Fowler's notes and papers on 'High energy cosmic experiments, as possible candidate for ESRO Scientific Mission Study' and 'Some thought concerning priorities in cosmic ray research.'</p> | |
| | <p>Also includes general information on 'the Workshop on research goals for Cosmic Rays Astrophysics in the 1980's' and a paper of the same title.</p> | |
| | <p>2 folders.</p> | |
| H.352, H.353 | Super Magnet Facility consultancy. | 1975 |
| | <p>2pp typescript entitled 'Some thoughts about the use of and critical features in the magnetic facility', and 'Report on the short study made to assess the possible development of a superconducting magnet facility for cosmic ray studies on spacelab.'</p> | |
| | <p>Also includes the minutes of the first meeting of Definition Team and various tables of results.</p> | |
| | <p>2 folders.</p> | |
| H.354 | HERSCHEL HOUSE TRUST | 1987-1988 |
| | <p>Correspondence <i>re</i> deed and trustees. Also includes a copy of the deed.</p> | |
| | <p>See also Fowler catalogue NCUACS 115/1/03 H.2-H.45.</p> | |
| | <p>Fowler was asked to represent the Royal Society at the meetings of the trustees.</p> | |
| H.355, H.356 | INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS (IUPAP) | 1984-1985, 1988 |
| | <p>Includes a list of IUPAP delegates for 1987-1990, nomination form for Fowler (title not supplied), lists of IUPAP conferences between 1985 and 1987 and news bulletin.</p> | |

Societies and Organisations

See also Fowler catalogue NCUACS 115/1/03 H.69-H.77.

H.357 **MEDICAL RESEARCH COUNCIL** **1981**

Correspondence *re* invitation to serve on subcommittee to appoint the Director of the Council's Radiobiology Unit at Harwell. Fowler declined the invitation.

H.358-H. 376 **ROLLS ROYCE** **1984-1988**

The following material relates to Fowler's consultancy work on 'Non-invasive measurement of temperature of a moving item by means of neutron beams.'

See also Fowler catalogue NCUACS 115/1/03 H.208-H.222.

H.358 Correspondence *re* patent application. 1984-1985

Fowler applied for a patent for the measurement of temperature using epithermal neutrons.

H.359 'Neutron Corresp 1984. ' Folder so entitled. 1984-1987

Correspondence *re* Fowler's consultancy. Also includes correspondence *re* a patent application. See also H.358.

H.360 Application for support for a preliminary investigation into temperature measurement by neutrons, June 1984. 1984

15pp typescript with figures.

H.361 Interim report on temperature measurement by epithermal neutron absorption. c.1984

Societies and Organisations

4pp typescript with figures.

- | | | |
|-------|---|--------|
| H.362 | Resonance neutron radiography as a non-invasive probe of temperature, with A.D. Taylor, November 1984. | 1984 |
| | 1p typescript with figure. | |
| H.363 | Report on remote temperature measurement by neutrons, December 1984. | 1984 |
| | 19pp typescript draft. | |
| H.364 | 'RR report-Master copy.' Folder so inscribed. | 1984 |
| | Correspondence <i>re</i> significant resonances. | |
| H.365 | Tables of significant epithermal neutrons. | 1984 |
| | 13pp typescript. Also includes a 4pp typescript with figures entitled 'Remote temperature measurement using resonant epithermal neutrons.' | |
| H.366 | Presentation of specification for cyclotron for neutron absorption spectra for Rolls Royce. For informal meeting at Oxford Instruments, 2 May 1985. | 1985 |
| | 4pp typescript draft with figure. | |
| H.367 | Budget for non-invasive temperature measurement development programme. | 1985 |
| H.368 | Application for support for a preliminary investigation into temperature measurement by neutrons. | c.1985 |
| | 15pp typescript draft. | |
| H.369 | 'Positional epithermal neutron detector with high count rate.' Appendix. July 1985. | 1985 |

Societies and Organisations

4pp typescript with figures.

- | | | |
|-------|--|------|
| H.370 | 'Ideas from Crystal Ball', November 1985. | 1985 |
| | 5pp typescript of a presentation. Material includes a 3pp typescript entitled 'Analysis of finite heat transfer coefficients between the gas and turbine blades and its effect on the form and duration of temperature transients' and correspondence. | |
| H.371 | 'An initial programme for evaluation of temperature measurement using epithermal neutrons.' April 1986. | 1986 |
| | 34pp typescript. | |
| H.372 | 'Resume of accuracy of temperature determination.' July 1986. | 1986 |
| | 2pp typescript with figures. | |
| H.373 | 'Non-invasive temperature and strain measurement in static and dynamic application using pulsed neutron technology. May 1988. | 1988 |
| | 4pp typescript with figures inscribed 'DT I Submission 10 May 1988.' | |
| H.374 | 'Letter to Rolls Royce: exposure times versus thickness of penetration for neutrons.' | n.d. |
| | 3pp typescript draft with figures. | |
| H.375 | 'Master copy-ICANS talk'. Folder so inscribed. | n.d. |
| | The paper starts 'The effect of thermal broadening of narrow resonance for neutron absorption has been known for years.' | |

Societies and Organisations

H.376 Miscellaneous figures. n.d.

H.377 **ROYAL ASTRONOMICAL SOCIETY** 1967, 1982

Correspondence *re* election as Fellow and candidature as Ordinary Member of Council. Also includes a list of candidates for 1968 elections.

See also Fowler catalogue NCUACS H.223-H.231.

H.378-H.417 **ROYAL SOCIETY** 1969-1988

See also Fowler catalogue NCUACS 115/1/03 H/232-H.285.

H.378-H.383 **General correspondence** 1971-1988

Correspondence *re* funding, invitation to talk, report on King's School, Bruton Royal Society project, permission for visits, conferences, Rutherford Memorial Lecture Tour in New Zealand and committee membership.

6 folders.

H.384 **British National Committee for Physics** 1973-1986

Correspondence *re* conference attendance, chairmanship of the Committee.

See also Fowler catalogue NCUACS 115/1/03 H.247, H.248.

Fowler was also invited to be a representative of the Royal Meteorological Society on the National Committee for Physics.

Societies and Organisations

- | | | |
|--------------|--|------------------|
| H.385-H.387 | British National Committee on Space Research | 1971-1984 |
| H.385, H.386 | Correspondence <i>re</i> appointment as Royal Society representative on the Space Research Committee and UK reports to COSPAR. | 1971-1984 |
| | See also Fowler catalogue NCUACS 115/1/03 H.253. | |
| | 2 folders. | |
| H.387 | Solar System Sub-Committee | 1974 |
| | Newsletter. | |
| H.388 | Royal Society Club | 1972-1985 |
| | Correspondence <i>re</i> membership and Year Book, Club report for 1982-1983 and Fowler's Year Book entries for 1972 and 1976. | |
| | See also Fowler catalogue NCUACS 115/1/03 H.254. | |
| H.389 | Rutherford Memorial Committee | 1974 |
| | Correspondence <i>re</i> membership. | |
| | Fowler was appointed member of the Rutherford Memorial Committee from January 1975. | |
| H.390-H.412 | Royal Society Research Professorship | 1971-1987 |
| H.390-H.392 | Correspondence <i>re</i> renewal of Fowler's Professorship and research reports. | 1974-1984 |
| | Includes some of Fowler's reports. | |
| | 3 folders. | |

Societies and Organisations

| | | |
|--------------------|---|------------------|
| H.393-H.395 | Research Professorship reports. Some reports are undated. 3 folders. | 1971-1987 |
| H.396-H.408 | Correspondence and papers <i>re</i> financial administration of Royal Society grant. 13 folders. | 1969-1987 |
| H.409-H.412 | 'Royal Society Personnel and Salaries'. Contents of folder so inscribed. | 1972-1981 |
| H.409-H.411 | Correspondence <i>re</i> payment claims, personnel budget and salaries. | 1972-1981 |
| H.412 | Manuscript and typescript budgets. | 1972, 1974 |
| H.413-H.418 | Recommendations and Fellowships | 1972-1974 |
| H.413 | Correspondence <i>re</i> nomination for Royal Society Professorship. | |
| H.414-H.416 | Correspondence <i>re</i> recommendations. 3 folders. | 1972-1974 |
| H.417, H.418 | Supporting documents. 2 folders. | 1973 |

Societies and Organisations

H.419 **SCIENCE AND ENGINEERING RESEARCH COUNCIL** **1981-1987**

Correspondence *re* research grant application.

See also Fowler catalogue NCUACS 115/1/03 H.286-H.324.

H.420-H.443 **SCIENCE RESEARCH COUNCIL** **1969-1985**

Fowler was chairman of the Assessment Panel for the University of Leicester X-Ray Astronomy group from 1978 to 1980. He was a member of the Astronomy, Space and Radio Board and within that board of the Student and Fellowship Panel and the Balloon Steering Committee between 1977 and 1980. He was also a member of the Astronomy I Committee, the Astrophysics Working Group of the Space Policy and Grant Committee and the Gamma Ray Astronomy Committee.

See also Fowler catalogue NCUACS 115/1/03 H.325-H.341.

H.420-H.427 **General correspondence *re* refereeing and assessments of grant applications.** **1969-1984**

8 folders.

H.428-H.434 **Assessment Panel of the University of Leicester X Ray Astronomy Group.** **1976-1979**

H.428, H.429 **Correspondence *re* appointment, projects and research opportunities.** **1978-1979**

2 folders.

Societies and Organisations

- H.430, H.431 Two proposals to the European Space Agency. c.1976, 1978
- Proposals are for a 'Wide Field Camera for X-Ray Bursts and Transients' and 'Temporal and Spectral Studies of Cosmic X-Ray sources.'
- 2 folders.
- H.432, H.433 'Papers for a meeting of the Leicester Assessment Panel to take place on Monday 30 April 1979 at Leicester University..' Folder so inscribed. 1979
- 2 folders.
- H.434 Reports of the Panel. 1977-1979
- H.435 **Astronomy I Committee** 1977-1980
- Correspondence *re* appointment and list of members.
- H.436 **Astronomy, Space and Radio Board** 1980
- Correspondence and report.
- See also Fowler catalogue NCUACS 115/1/03 H.326, H.327.
- H.437 **Astronomy, Space and Radio Board Studentship and Fellowship Panel** 1975
- 1 letter thanking Fowler for his work on the Panel between 1973 and 1975.

Societies and Organisations

- | | | |
|-------------|--|-----------|
| H.438-H.440 | Space Policy and Grant Committee Astrophysics Working Group | 1969-1974 |
| | Correspondence <i>re</i> appointment, research opportunities. Also includes a report and document <i>re</i> membership of the working group. | |
| | 3 folders. | |
| | See also Fowler catalogue NCUACS 115/1/03 H.328-H.333. | |
| H.441 | Balloon Programme Steering Committee | 1977-1980 |
| | Correspondence <i>re</i> appointment and meeting arrangements. | |
| H.442 | Gamma Ray Astronomy Committee | 1971-1976 |
| | Correspondence <i>re</i> appointment, meeting arrangements and minutes. | |
| | Fowler was chairman of the committee. | |
| H.443 | Miscellaneous. | n.d. |
| H.444 | UNIVERSITY OF EDINBURGH ASTRONOMICAL SOCIETY | 1972 |
| | Invitation to Fowler to serve as Honorary Vice-President of the Society. | |

SECTION J CORRESPONDENCE, J.109-J.155 1966-1987

See also Fowler catalogue NCUACS 115/1/03 J.9-J.108.

J.109-J.135 ALPHABETICAL SEQUENCE 1966-1987

J.109-J.111 A-B 1970-1987
3 folders.

J.112, J.113 C-D 1970-1986
2 folders.

J.114-J.117 E-F 1970-1987
4 folders.

J.118, J.119 G-H 1970-1987
2 folders.

J.120, J.121 J-L 1970-1987
2 folders.

J.122-J.125 M-O 1971-1986
3 folders.

J.126-J.130 P-R 1966-1986
5 folders.

J.131-J.133 S-Y 1971-1986
3 folders.

Correspondence

| | | |
|--------------|---|-----------|
| J.134, J.135 | W-Z 2 folders. | 1970-1984 |
| J.136-J.155 | REFERENCES AND EXAMINATIONS | 1970-1986 |
| J.136-J.150 | References See also Fowler catalogue NCUACS 115/1/03 J.27. | 1972-1985 |
| J.136-J.140 | A-D 5 folders. | 1972-1985 |
| J.141-J.146 | K-M 6 folders. | 1973-1985 |
| J.147-J.150 | N-W 4 folders. | 1973-1984 |
| J.151-J.155 | Examinations | 1970-1986 |
| J.151 | University of Bristol. Correspondence. Fowler was an internal examiner for the University of Bristol. | 1971-1978 |
| J.152 | University of London. Correspondence. Fowler was an External Expert on Boards of Advisors in Radiation Biology for the University of London, 1970-1974. | 1970-1982 |

Correspondence

- J.153 University of Newcastle. 1983-1986
Correspondence.
Fowler was an external examiner in physics at the University of Newcastle.
- J.154 Degree examinations overseas. 1971-1983
Correspondence.
Fowler was external examiner for the University of Adelaide, Australia, Punjab University and Gauhati Universty, India.
- J.155 External examination position declined. 1973
Correspondence.

INDEX OF CORRESPONDENTS

| | |
|--|-------------------------------|
| BØGGILD, J.K. | J.110 |
| CRUIKSHANK, Austin James Bruce | B.112 |
| DAVIES, John | C.74 |
| EUROPEAN SPACE RESEARCH ORGANISATION | H.347-H.353 |
| FLEISCHER, Robert L. | J.116 |
| FRANK, Sir Frederick Charles | B.166 |
| FRIEDLANDER, Mike W. | C.68, E.98, J.117 |
| INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS (IUPAP) | H.355-H.356 |
| ISRAEL, Martin H. | B.206, C.72, C.74, C.90, D.98 |
| KIDD, John | D.83, D.90 |
| LOCK, William Owen | J.121 |
| MARSDEN, P. | B.167, G.70, J.122 |
| MEDICAL RESEARCH COUNCIL | H.357 |
| MENON, Mambillikalathil Govind Kumar ('Goku') | H.378, J.123 |
| MERRISON, Sir Alec (Alexander Walter) | H.378, H.396, H.398 |
| NABARRO, Frank Reginald Nunes | G.56 |
| NYE, John Frederick | B.170, D.87 |

Index of Correspondents

| | |
|--|--|
| OCCHIALINI, Giuseppe Paolo Stanislao ('Beppo') | B.211 |
| O'CEALLAIGH, Cormac | C.68, C.72, C.80 |
| | J.125 |
| PEIERLS, Sir Rudolf Ernst | |
| PERKINS, Donald Hill | J.125 |
| PINKAU, Klaus | C.72 |
| PIPPARD, Sir Alfred Brian | F.64 |
| PORTER, George, Baron | F.85 |
| POWELL, Cecil Frank | B.165, B.166, G.46, G.47, J.127 |
| PRICE, John | C.59, C.80, C.90, H.425 |
| PRICE, Buford P. | B.207, C.59, C.61, C.64, D.79- D.81, D.98, J.126 |
| | |
| ROLLS ROYCE PLC | H.358-H.376 |
| ROYAL ASTRONOMICAL SOCIETY | H.377 |
| ROYAL SOCIETY | H.378-H.417 |
| RUNCORN, Stanley Keith | E.69, H.381, J.152 |
| | |
| SCIENCE AND ENGINEERING RESEARCH COUNCIL | H.418 |
| SCIENCE RESEARCH COUNCIL | H.419-H.442 |
| SHIPLEY, Alfred | C.57, C.59, C.62-C.64, C.66- C.68, C.70, C.72, C.78, C.80 |
| | |
| THOMPSON, N. | B.168 |
| | |
| WADDINGTON, C. Jake | D.98, G.63, J.133 |
| WOLFENDALE, Sir Arnold Whittaker | G.61, G.76, G.77, G.83, H.378, H.382 |

