

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on the further correspondence and papers

of

DOROTHY MARY MOYLE NEEDHAM

(1896-1987)

biochemist

in Girton College Library,

Cambridge CB3 0JG

Reproduced for the

National Cataloguing Unit for the Archives of

Contemporary Scientists

(NCUACS 37/5/92)

by

The Royal Commission on Historical Manuscripts

Quality House, Quality Court, Chancery Lane,

London WC2A 1HP

1993

All rights reserved

No 2/93
NRA 33448

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on the further correspondence and papers

of

DOROTHY MARY MOYLE NEEDHAM

(1896-1987)

biochemist

in Girton College Library,

Cambridge CB3 0JG

Reproduced for the

National Cataloguing Unit for the Archives of

Contemporary Scientists

(NCUACS 37/5/92)

by

The Royal Commission on Historical Manuscripts

Quality House, Quality Court, Chancery Lane,

London WC2A 1HP

1993

All rights reserved

No 2/93
NRA 33448



National Cataloguing Unit for the Archives of Contemporary Scientists
under the guidance of the Royal Society's National Committee for the History of Science, Medicine and Technology

Supplementary catalogue of the papers and correspondence of

DOROTHY MARY MOYLE NEEDHAM FRS

(1896 - 1987)

Compiled by Timothy E. Powell and Peter Harper

Deposited in the Library, Girton College, Cambridge

NCUACS 37/5/92

All rights reserved
University of Bath
1992

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

The Biochemical Society

The British Library

British Petroleum plc

The Geological Society

The Institute of Physics

The Royal Society

The Royal Society of Chemistry

The Society of Chemical Industry

The Wellcome Trust

LIST OF CONTENTS

		Items	Page
INTRODUCTION			3
SECTION A	BIOGRAPHICAL AND PERSONAL	A.121,A.122	4
SECTION B	CAMBRIDGE UNIVERSITY	B.34-B.64	5
SECTION C	NOTEBOOKS	C.79-C.150	9
SECTION D	PUBLICATIONS AND LECTURES	D.75-D.123	17
INDEX OF CORRESPONDENTS			20

INTRODUCTION

This catalogue is a supplement to that compiled in 1990 (NCUACS 22/7/90). The material has been arranged into sections and numbered to follow the sequence of the previous catalogue, which should be consulted in conjunction with this Supplementary Catalogue.

DESCRIPTION OF THE COLLECTION

The collection is presented in the order given in the List of Contents. Material supplementary to the 1990 catalogue has been found for the first four sections.

Section A, Biographical and Personal, comprises two new items: an undergraduate essay by Needham and a thesis completed c.1925, probably submitted for the Beit Memorial Fellowship.

Section B, Cambridge University, consists chiefly of material relating to the foundation of two Cambridge women's colleges: New Hall in 1954 and Lucy Cavendish College, the first women's graduate college in the University, in 1965. The papers reflect Needham's close involvement in their establishment through her membership of the Third Foundation Association (which campaigned for New Hall) and 'the Dining Group' (or the Society of Women Members of the Regent House who are not Fellows of Colleges) which became Lucy Cavendish College.

Section C, Notebooks, covers the period 1914-62, a time-span encompassing the whole of Needham's research career. The section includes many undergraduate notebooks used by Needham for notes on lectures and practical work for the Natural Sciences Tripos at Girton College 1915-19. All aspects of Needham's research work are documented: from post-graduate and post-doctoral research under F.G. Hopkins and work in the 1930s on ATP (adenosinetriphosphate), to wartime research on chemical defence and post-war research on enzyme biochemistry.

Section D, Publications and Lectures, chiefly consists of further material relating to Needham's book *Machina Carnis: the biochemistry of muscular contraction in its historical development* (Cambridge 1971). There is a complete typescript draft of the '2nd copy' and correspondence 1967-70 with colleagues from whom she sought advice and comments.

There is also an index of correspondents.

T. E. Powell
P. Harper
BATH 1992

SECTION A BIOGRAPHICAL AND PERSONAL

A.121, A.122

A.121 Undergraduate essay 'The Biology of Flowers', 11pp ms + 1p ms notes, January 1916.

This was awarded a 'B+' with the comment 'This is a good account of purely historic interest. It gives too little idea of flower biology as it is at present conceived'.

A.122 'A thesis on the pH and rH of the cell-interior and on the chemical dynamics of muscle by D. M. Needham'. Retained in original covers. Probably submitted in application for the Beit Memorial Fellowship which Needham was awarded in 1925.

SECTION B CAMBRIDGE UNIVERSITY

B.34 - B.64

- B.34 - B.39 THIRD FOUNDATION ASSOCIATION
- B.40 - B.47 THE DINING GROUP
- B.48 - B.63 LUCY CAVENDISH COLLEGE
- B.64 GIRTON COLLEGE

THIRD FOUNDATION ASSOCIATION

This Association was established in 1951 to press for the establishment of a third women's college in Cambridge. Its aim was achieved with the foundation of New Hall in 1954 and the Association was then wound up. Needham was a member of the Association through her membership of the Dining Group (see below B.40-B.47), which supported the establishment of a third foundation.

The events leading up to the formation of the Association are narrated in a note by Needham prepared for the Dining Group (B.40).

- B.34 1951 May - October. Includes 'Outline of proposals for a Third Collegiate Foundation for Women in the University of Cambridge', 4pp typescript.
- B.35 1951 November. Includes draft of proposal to establish a Third Foundation, 4pp typescript with ms amendments, and typescript list of 'Corrections agreed'.
- B.36 1951, nd. Includes 'Analysis of points of difference between the two schools of thought', 8pp typescript; ms notes by Needham on the requirements of a third foundation.
- B.37 1952-53. Papers of meetings 22 November 1952, 20 January and 12 February 1953; list of members 22 January 1953.
- B.38 1953. Publicity material March 1953; papers of meetings 17 July and 2 December; exchange with Dame Myra Curtis *re* name of third foundation, December.
- B.39 1954. Papers of meetings 9 February and 21 April (the final meeting of the Association); brochure for New Hall, July; papers *re* G.P. Bidder/Third Foundation Trust Fund.

Cambridge University

THE DINING GROUP

Needham was a member of the Dining Group, an informal social club of Cambridge University women. It supported the idea of a third women's college and co-operated in the formation of the Third Foundation Association (see above B.34-B.39) but continued in existence after New Hall was established. From 1953 it adopted as a formal title 'the Society of Women Members of the Regent House who are not Fellows of Colleges' and was instrumental in the creation of Lucy Cavendish College as a graduate college for women (see below B.48-B.63).

- B.40 1952 March - May. Papers of meetings 26 March, 29 April, 13 May and 27 May (includes 3pp typescript draft by Needham on the Group's involvement in moves towards a third foundation).
- B.41 1952 July - September. Papers of meetings 8 July, 15 July, 25 July (includes 3pp duplicated typescript 'Draft proposals for a new women's foundation at Cambridge University'), 5 August and 30 September.
- B.42 1953. Minutes of meetings of 3 March and 10 November; 'An Open Letter to the Dining Club [...] containing suggestions for a Five-Year Policy' by M. Masterman, 15 February.
- B.43 1955-58. Includes 'Memorandum submitted by the Society of Women Members of the Regent House, who are not Fellows of Colleges ("The Dining Group")', 6pp duplicated typescript, with reply from University Registrar 21 June 1955.
- The Memorandum pressed the University Council for recognition of the Society as a corporate body within the University.
- B.44 1960. 'Memorandum submitted by the Society of Women Members', 5pp duplicated typescript draft 8 December 1960 and 6pp ?final version.
- The Memorandum was prepared for the Syndicate established by the University 'to report on any ways in which they think that the relations between the University and the Colleges could be improved'. The Memorandum pressed for recognition of the Society as a collegiate body.
- B.45 1962 (1). 'Report of the Syndicate...', *Cambridge University Reporter* 13 March.
- B.46 1962 (2). 'Statement by the Society of Women Members', 7pp duplicated typescript.
- This statement, published in the *Cambridge University Reporter* of 18 May, was critical of the Syndicate's Report and argued for the collegiate scheme presented in the Memorandum (B.44).

Cambridge University

- B.47 1962-64. Includes 'Report of the Council of the Senate on Societies for graduates', *Cambridge University Reporter* 13 June 1963; request from Society of Women Members to Council for recognition as a Collegiate Society, 3pp duplicated typescript, 24 July 1963, with reply from the Registrar.

The Registrar noted the Council had received the Society's request with sympathy and felt, given University approval, it should be possible to establish a Collegiate Society on the lines suggested.

LUCY CAVENDISH COLLEGE

The Society of Women Members of the Regent House who are not Fellows of Colleges (the Dining Group) adopted the name Lucy Cavendish Collegiate Society in 1964 in expectation of recognition by the University and conferment of collegiate status. It received recognition as an Approved Society of the University on 31 July 1965. The Collegiate Society was wound up on 31 December 1965, to become Lucy Cavendish College.

- B.48-B.52 Collegiate Society
- B.48 1964 February - May. Papers of business meetings 18 February, 10 March, 5 May.
- B.49 1964 June-October. Papers of AGM 2 June and business meetings 2 June, 14 July, 11 August, 22 September and 20 October.
- B.50 1964. Includes 'Draft Memorandum on the Lucy Cavendish Collegiate Society', 4pp duplicated typescript.
- B.51 1965 January - June. Papers of business meetings 19 January, 9 March, 26 April, 25 May, 8 June and 22 June (includes 3pp duplicated typescript 'Material relating to the discussion of the Council of Senate's Report in the Regent House on 13 July').
- B.52 1965 July - November. Papers of business meetings 23 July, 17 August (the last meeting of the Collegiate Society); list of members.

Cambridge University

B.53-B.63 Lucy Cavendish College

Needham was a member of the Governing Body and of the Council of the College.

B.53-B.62 Papers for meetings of Governing Body and Council 1965-66.

B.53 1965 August-November

B.58 1966 April

B.54 1965 November-December

B.59 1966 May (1)

B.55 1966 January

B.60 1966 May (2)

B.56 1966 February

B.61 1966 June-September

B.57 1966 March-April

B.62 1966 October-December

B.63 Printed material *re* College 1965-66; brief correspondence 1966.

GIRTON COLLEGE

B.64 Miscellaneous material, 1948-51.

SECTION C NOTEBOOKS

C.79 - C.150

- C.79 Hardback notebook inscribed on first page 'Dorothy M. Moyle, 79, Beech Road, Stockport. Botany'. Used from the front for notes on and pencil sketches of plants found growing wild, 3 June - 13 August [?1914] and 4 September 1920, and at the back for chemistry notes (some loose). A little intercalated material includes 1913 Christmas card.
- C.80-C.114 Undergraduate notebooks.
- Needham entered Girton College in 1915 to study for the Natural Sciences Tripos. She passed Part I in 1918 and Part II, specialising in Chemistry, in 1919.
- C.80 Softback notebook inscribed on spine 'PHYSIOLOGY II' and on first page 'Girton. October Term 1915. General Physiology. Professor [J.N.] Langley and Professor [F.G.] Hopkins'. Paginated 1-162, with incomplete list of contents at the back. Used for notes on lectures 11 November 1915 - 29 February 1916.
- C.81 Softback notebook inscribed on spine 'PHYSIOLOGY III' and on first page 'Lent Term 1916. General Physiology Professor Langley & Professor Hopkins'. Used for notes on lectures 4 March - 26 May 1916, and October - 8 December [?1916].
- C.82 Softback notebook inscribed on spine 'CHEMISTRY' and on first page 'Practical Chemistry. Miss [M.B.] Thomas'. Used for notes 12 October 1915-26 January 1916.
- C.83 Softback notebook inscribed on spine 'PRACTICAL CHEMISTRY II' and on first page 'Lent Term 1916. Practical Chemistry. Miss Thomas'. Used for notes 4 February - 17 May 1916, 9 May 1917, and nd (some loose).
- C.84 Softback notebook inscribed on spine 'BOTANY I' and on first page 'Lent Term, 1916. Botany. Mr [F.F.] Blackman and Mr [?C.E.] Moss'. Used for notes on lectures 21 January - 6 March.
- C.85 Softback notebook. Used for notes on lectures 6 March - 18 March 1916 (as a continuation of those in C.84), and 'Lent Term. 1918' 17 January - 28 February.
- C.86 Softback notebook inscribed on spine 'ANALYSIS' and on first page 'Easter Term, 1916. Qualitative Analysis'. Used from the front for notes 16 May - 29 May 1916, 23 April - 21 May [?], and from the back for notes on 'Organic Analysis' 21 February [?]. A little loose material.
- C.87 Softback notebook inscribed on first page 'May Term 1916. Electricity. Mr [C.M.] Sleeman'. Used from the front for notes on lectures 2 - 30 May and nd, and from the back for notes on lecture on magnetism.

Notebooks

- C.88 Manchester High School for Girls exercise book inscribed on cover '[...] Chemistry Notes'. Used for miscellaneous notes Long Vacation 1916, March 1917, and July [?1917].
- C.89 Manchester High School for Girls exercise book inscribed on cover '[...] Girton College, Cambridge'. Used for notes on physiology course Long Vacation 1916, 2 November 1916 - 8 February 1917, 6 September [?1917], and 25 February 1918.
- C.90 Softback notebook inscribed on spine 'PRACTICAL ORGANIC' and on first page 'Practical Organic Chemistry'. Used for notes 13 October 1916 - 12 February 1917.
- C.91 Softback notebook. Used for notes on lectures on botany 2 - 20 May [?1916], and 12 - 31 October [?1916]. The second set of notes probably continues in C.92.
- C.92 Softback notebook inscribed on first page 'Michaelmas Term, 1916. Elementary Botany. Professor [A.C.] Seward'. Used for notes on lectures 2 November - 7 December 1916 and Lent term January - 8 March 1917. Probably continued from C.91.
- C.93 Softback notebook inscribed on first page 'Elementary Botany. Practical. Professor Seward'. Used for pencil sketches from 4 May [?1917].
- C.94 Manchester High School for Girls exercise book inscribed on cover 'Botany notes'. Used for notes on lectures 28 November 1916 ('Evolutionary theory and modern doubts' by W. Bateson) - 1 March 1918. A little material intercalated.
- C.95 Softback notebook inscribed on first page 'May Term. 1917. Plant Chemistry. Miss [M.] Wheldale'. Used from the front for notes on experiments 24 April - 22 May, and from the back for notes on ?practicals.
- C.96 Softback notebook inscribed on first page 'Long Vacation Term. 1917. Practical Chemistry. Inorganic Preparations. Miss Thomas'. Used for notes 5 - 24 July 1917, and 'Lent Term 1918. Revision' notes 17 January - 7 March.
- C.97 Softback notebook inscribed on first page 'Organic Chemistry. Preparations. Mr [W. H.] Mills'. Used for notes 5 - 29 July [?1917], and notes on 'Lactic Acid in Mammalian Muscle', probably made over an extended period (includes work dated 21 January 1921).

Notebooks

- C.98 Softback notebook inscribed on first page 'Long Vacation Term 1917. Dr [J.C.] Willis'. Used from the front for notes on lectures on plant taxonomy, ecology etc 4 - 25 July, and notes on plant biochemistry 4 - 12 March [?], and from the back for lists of plants found at different sites.
- C.99 Softback notebook inscribed on first page 'Bacteriology'. A note by Needham loose at front identifies the contents as: 'Bacteriology, Long Vac Course from sequence of dates [...] would have to be long vac 1917'. Used for notes 6 July - 8 August.
- C.100 Softback notebook inscribed on spine 'CHEMISTRY DR FENTON' and on first page 'Michaelmas Term. 1917. Practical Chemistry. Dr [H.J.H.] Fenton'. Used for notes on practicals from 16 October.
- C.101 Hardback notebook inscribed on first page 'Michaelmas Term 1917. Physical Chemistry. Dr Fenton'. Used for notes on lectures 24 November - 8 December 1917, Lent term January - 12 March 1918 and Summer Term from 23 April. A little intercalated material.
- C.102 Hardback notebook inscribed on first page 'Michaelmas Term 1917. Genetics. Professor [R.C.] Punnett'. Used for notes on lectures 16 October - 6 December 1917 and Lent term 17 January - 7 March 1918.
- C.103 Softback notebook inscribed on first page 'Oct. 1917. Central Nervous System. Dr [L.E.] Shore'. Used for pencil sketches and notes October 1917 and Lent term from 23 January 1918. A little intercalated material.
- C.104 Softback notebook inscribed on first page '1917. Practical Botany'. Used for pencil sketches.
- C.105 Softback notebook inscribed on spine 'PHYSIOLOGY DR SHORE' and on first page 'Lent Term 1918. Physiology. Dr Shore'. Used for notes on lectures 18 January - 7 March.
- C.106 Softback notebook used for notes on lectures. Loose note by Needham identifies the contents as: 'Oxidations in the cell Prof. Hopkins I, II, III, IV [towards back of book] & Lent Term 1918 Intermed 1) Set of Hopkins & Cole Chemical Physiology, Th 9 With practical work F. 10 [...] 2) Probably lects of Langley & [F.H.A.] Marshall, Easter Term, Intermed lects in General Physics, MWF 9 [...] 3) Miscell lects by Hopkins & others & reading. Michaelmas 1918, Lent 1919'. Loose at front are ms notes dated 5 December 1923.

Notebooks

- C.107 Softback notebook inscribed on first page 'Michaelmas [sic] Term 1918. [...] Physical Chemistry'. Used for notes on lectures 18 October 1918 - 11 January 1919, and various dates 16 October 1921 - 15 November 1923 (lecturers include Hopkins and J.B.S. Haldane). A little intercalated material.
- C.108 Hardback notebook inscribed on first page 'Organic Chemistry. Part II. Mr Mills'. Used for notes 14 October 1918 - 30 January 1919. Notes possibly continued in C.109.
- C.109 Hardback notebook used for notes on chemistry 6 February - 13 March [?1919], possibly continuing notes in C.108.
- C.110 Hardback notebook inscribed on first page 'Michaelmas Term, 1918 [...] Metallurgy. Mr [C.T.] Heycock'. Used chiefly for notes on practicals.
- C.111 Softback notebook inscribed on first page 'Michaelmas Term, 1918. Organic Chemistry Reading'. Used for notes from 18 October 1918. A little intercalated material, including programme for Cambridge University *versus* All England tennis competition 14 June 1920.
- C.112 Softback notebook inscribed on first page 'Practical Chemistry'. Used for notes on practicals from 14 October [?1918]. Loose at front are two Chemistry examination papers for Part II of Natural Sciences Tripos, 27 May 1919.
- C.113 Softback notebook inscribed on first page 'Plant Physiology Practical Mr Blackman'. Used for notes 23 April - 9 May [?].
- C.114 Hardback notebook used for notes on chemistry, latest reference 1917. Loose notes at back of book.
- C.115 Softback notebook inscribed on first page 'D.M. Moyle. Balfour Laboratory, Downing Place, Cambridge'. Paginated 1-85 (the pagination does not run to the end of the book). Used for notes on experiments Long Vacation [?1921] and 18 October 1921 - 17 January [?1923]. A little intercalated material.
- C.116 Softback notebook inscribed on first page 'D. M. Moyle. Biochemical Laboratory. Cambridge'. Used for notes on experiments Michaelmas Term 1921 and 1 February 1923 - 24 February 1925. Intercalated photograph of ?Dorothy and Joseph Needham in the laboratory.

Notebooks

- C.117 Softback notebook inscribed on first page 'D.M. Needham. Biochemical Laboratory March 18th, 1925'. Used for notes on experiments 18 March 1925 - 10 March 1927. A little intercalated material.
- C.118 Softback notebook inscribed on first page '[...] Biochemical Laboratory, Cambridge'. Used from the front for notes on experiments various dates 10 June 1927 - 29 January 1930, and at the back for rough notes, calculations and draft of humorous letter setting out dangers and difficulties in biochemical research. Intercalated material includes postcard from J. Needham in Ireland, 24 November 1932.
- C.119 Softback notebook inscribed on first page '[...] Biochemical Laboratory, Cambridge'. Used from the front for notes on experiments February 1934 - 26 January 1935, and at back for rough notes.
- C.120 Hardback notebook inscribed on first page '[...] Biochemical Laboratory, Cambridge'. Used from the front for notes on experiments from 29 January 1935. A little intercalated material.
- C.121 Foolscap hardback notebook inscribed inside front cover '17' and on first page '[...] Biochemical Laboratory. Cambridge. Feb. 1937'. Used for notes on experiments 4 February - 12 July 1937 and 27 October 1937 - 18 October 1939. A little material intercalated loose and clipped to pages of the notebook.
- C.122 Foolscap hardback notebook inscribed on first page '[...] Biochemical Laboratory Cambridge. Oct 20th 1939'. Used for notes on experiments October 1939-November 1940, January 1942, 25 March 1946 - 27 January 1950 and February 1952. Material intercalated includes correspondence 1943 and 1947.
- C.123 Softback notebook inscribed on first page '[...] Biochemical Laboratory Cambridge'. Used for notes on experiments 27 May 1941 - 25 January 1944.
- C.124 Hardback notebook inscribed on first page 'April 1942'. Used for notes on experiments. Intercalated material includes drafts of personal letter *re* health and future plans.
- C.125 Hardback notebook inscribed on first page '23-6-43 onwards' with typescript list of contents headed 'Mrs Needham (cum Dr [J.A.] Cohen)' pasted onto the page. Used for notes on experiments *re* chemical defence research (not all in Needham's hand) 23 June 1943 - 24 November 1944.* A little intercalated material.

* The collection of the papers and correspondence of Malcolm Dixon in Cambridge University Library contains a notebook used by Cohen and Needham 5 December 1942 - 22 June 1943, NCUACS catalogue no. 23/8/90, item B.28.

Notebooks

- C.126 Spiral bound notebook used for notes on lectures 18 January 1946 - 6 March 1947. Lecturers include M.F. Perutz, E.C. Bate-Smith, K. Bailey, M. Dixon, F.A. Lipmann, T.R.R. Mann and G.D. Greville. Loose at back is list of literature for 'Methods of X-ray Analysis and their Applications to Biological Problems', c.1946.
- C.127 Spiral bound notebook inscribed on first page '[...] Biochemical Laboratory...'. Used for rough notes and calculations from November 1946.
- C.128 Hardback notebook used chiefly for notes on lectures various dates 26 February 1947 - 53. Lecturers include K. Bailey, A.F. Huxley, A.L. Lehninger, M. Dixon, S.V. Perry and B. Chance.
- C.129 Spiral bound 'Century' notebook used for notes on experiments, calculations and jottings 1947.
- C.130 Spiral bound 'Century' notebook used for notes on experiments, calculations and jottings May - September [?1947].
- C.131 Softback notebook inscribed inside front cover 'D.M. Needham. Institut Pasteur. Rue du docteur Roux'. Used for notes on experiments 2 January - 29 November 1948. A little intercalated material.
- C.132 Softback notebook used for notes on experiments May - 10 December 1948. A little material intercalated.
- C.133 Hardback notebook used for notes on experiments, calculations and jottings 20 June - 19 August [?1948].
- C.134 Softback notebook used for notes on experiments 20 September - 9 November 1950, 16 February - 5 August 1952, 26 January 1955.
- C.135 Spiral bound 'Century' notebook used for notes on experiments, calculations, bibliographical references and jottings [?1950].
- C.136 Exercise book used for notes on experiments, calculations and jottings [?1952].
- C.137 Hardback notebook inscribed on front cover 'I' and inside cover 'D. M. Needham Biochemical Laboratory Tennis Court Road Cambridge May 1953'. Used from the front for notes on experiments 19 May 1953 - 28 July 1955, and from the back for results of ovariectomies. A little loose material at back.

Notebooks

- C.138 Hardback notebook inscribed on front cover 'II' and inside cover '[...] Aug 2nd 1955'. Used from the front for notes on experiments 1955-59, and from the back for results of ovariectomies. Loose material intercalated.
- C.139 Hardback notebook inscribed on front cover 'III' and inside cover '[...] Dept. of Biochemistry Univ. of Cambridge 14.1.59'. Used from the front for notes on experiments 14 January 1959-1 April 1960, and at the back for miscellaneous notes.
- For notebook IV see C.10 in the previous catalogue.
- C.140 Hardback notebook inscribed on front cover 'V' and inside front cover '[...] Dec. 18th 1961'. Used from the front for notes on experiments 4 January - 27 November 1962, and at the back for miscellaneous notes including 'Conversation with Dr Johnson & Dr [A.J.] Rowe' 18 December 1961 and 'Conversation with A. J. Rowe and Mihalyi' 14 February 1962. Loose material intercalated.
- C.141 Hardback notebook inscribed inside front cover '[...] Biochemical Laboratory Tennis Court Road Cambridge June 1953'. Used from the front for notes on experiments various dates June 1953 - February 1957, and at the back for rough notes. A little loose intercalated material.
- C.142 Spiral bound 'Century' notebook used for notes on experiments, calculations and jottings. Loose at back is Practical Biochemistry examination paper for Part I of Natural Sciences Tripos, 3 June 1953.
- C.143 Hardback spiral bound 'Century' notebook used for notes on experiments and for calculations [?1953-54].
- C.144 Spiral bound 'Century' notebook used for notes on experiments and for calculations [?April] - September 1954.
- C.145 Spiral bound 'Century' notebook used for notes on experiments, calculations from 30 September 1954.
- C.146 Softback 'Cantab' notebook inscribed inside front cover '[...] Biochemical Lab Tennis Court Rd'. Used for notes on experiments and calculations 14 March - 8 November 1955.
- C.147 Exercise book inscribed on cover 'D. M. Needham Biochemical Lab Cambridge'. Used for notes on experiments, calculations and jottings, nd.

Notebooks

- C.148 Spiral bound 'Century' notebook used for notes on experiments, calculations and jottings, nd.
- C.149 Spiral bound 'Century' notebook used for notes on experiments, calculations and jottings, nd.
- C.150 Spiral bound 'Century' notebook used for notes on experiments, calculations and jottings, nd.

SECTION D PUBLICATIONS AND LECTURES

D.75 - D.123

- D.75-D.120 *Machina Carnis: The biochemistry of muscular contraction in its historical development* (Cambridge, 1971).
See D.14-D.31 of the previous catalogue.
- D.75-D.111 Typescript 'second copy' of draft with extensive ms correction and addition. With correspondence and comments on chapters of the draft found therewith.
- D.75 Title page, list of contents, preface.
- D.76 Chapter one.
- D.77 Chapter two.
- D.78 Correspondence *re* chapters one and two 1968-69.
- D.79 Chapter three; letter from R.A. Peters [*?re* chapter three], 18 September 1968.
- D.80 Chapter four.
- D.81 Chapter five.
- D.82 Chapter six; letter to E. Lundsgaard *re* chapters five and six, 3 December 1968.
- D.83 Chapter seven.
- D.84 Correspondence from H.H. Weber *re* chapter seven, 1968-69.
- D.85 Chapter eight.
- D.86 Chapter nine.
- D.87 Chapter ten.
- D.88 Chapter eleven.
- D.89 Correspondence *re* chapters ten, eleven and fourteen, 1966, 1969.

Publications and lectures

- D.90,D.91 Chapter twelve. 2 folders.
- D.92 Correspondence, chiefly *re* chapters eleven and twelve, 1969.
- D.93 Chapter thirteen.
- D.94 Ms draft of lecture found with preceding (D.93) headed 'Bristol Oct 67'. Paginated 1 - 17, 25. Note on p25 states: 'Missing pages in one copy of Ch 13'. Not found.
- D.95 Correspondence *re* chapter thirteen, 1967, 1969-70.
- D.96 Chapter fourteen.
- D.97 Chapter fifteen; letter to Needham *re* chapter fifteen, nd.
- D.98 Chapter sixteen.
- D.99 Chapter seventeen.
- D.100 Chapter eighteen.
- D.101 Correspondence *re* chapters seventeen and eighteen, 1967, 1969.
- D.102 Chapter nineteen.
- D.103 Chapter twenty.
- D.104 Chapter twenty-one.
- D.105 Chapter twenty-two.
- D.106 Correspondence, chiefly *re* chapters twenty-one and twenty-two, 1967, 1969-70.
- D.107,D.108 Chapter twenty-three. 2 folders.

Publications and lectures

- D.109 Correspondence *re* chapter twenty-three, 1968-70.
- D.110 Chapter twenty-four.
- D.111 Correspondence *re* chapter twenty-four; 'Finalities'.
- D.112-D.119 Bibliography for *Machina Carnis*. 406pp typescript with extensive ms corrections and additions. 8 folders.
- D.120 Draft of summary note for dust-jacket of *Machina Carnis*; copy of dust jacket.
- D.121 'The Lundsgaard Symposium Lecture (19, 20, 21 contained material from 5 - 7 of chapter 6 [of *Machina Carnis*])'. Paginated 1-23 (lacking pages 19 - 21) with ms corrections and additions. Nd.
- D.122 'D.M. Moyle. Biometer results'. Contents of folder so labelled: ms draft on 'Effects of different rates of freezing and thawing on gelatine gels', with associated data and graphs; ms notes (some from lectures) on electrons.
- D.123 'D. M. Needham Biochemical Lab Cambridge'. Contents of binder so inscribed: untitled 22pp ms and typescript draft beginning 'There is little doubt that the energy used by muscle in carrying out its function of performing work and maintaining tension is ultimately derived from the free energy of chemical reactions going on inside it.' Nd.

INDEX OF CORRESPONDENTS

ALLCHIN, Bridget	B.63
BALDWIN, Ernest H F	D.106
BÜLBRING, Edith	D.109
CHEESMAN, Dudley	D.92
CIBA FOUNDATION	C.137
CURTIS, Dame Myra	B.38. See also B.35
DAEMERS-LAMBERT, C	D.109
FELL, Dame Honor Bridget	B.34
FLORKIN, Marcel	D.78
GLYNN, Ian	D.111
GOODFORD, Peter J	D.95, D.109
GREVILLE, Guy Drummond	D.101
GUTMANN, E	D.89
HANSON, (Emmeline) Jean	D.109
HASSELBACH, Wilhelm	C.139
HAWKING, (née WILDE) Jane	B.63
HOLMES, Frederic L	D.78
HUXLEY, Sir Andrew Fielding	D.95
KEATINGE, W.R.	D.95
KERRIDGE,	D.92
KOMINZ, David Richard	D.92
LLOYD, G.E.R.	D.78
LOWY, Jack	D.109
MACDONALD, I.I.	B.34
MEGAW, Helen D.	B.36
NEEDHAM, Joseph	C.118

Index of correspondents

OFFER, Gerald W.	D.89, D.92
PERRY, Samuel Victor	D.92
PETERS, Sir Rudolph Albert	D.79
POYNTER, (Frederick) Noel (Lawrence)	D.78
RANDALL,	C.122
RANDLE, Sir Philip (John)	D.101
RÜEGG, J. Caspar	D.106, D.109
SANDOW, Alexander	D.95
TEICH, Mikulás	D.78, D.95
TONOMURA, Yuji	D.92
WAKID, Nabil W.	D.101
WEBER, Hans Hermann	D.84
WEEDS, Alan G.	D.92
WILKIE, Douglas Robert	D.89
WILSON, Leonard G.	D.78