Catalogue of the papers and correspondence of

# MALCOLM DIXON FRS

(1899 - 1985)

Compiled by Peter Harper and Timothy E. Powell

Deposited in Cambridge University Library

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# 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

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GENERAL INTRODUCTION

PROVENANCE

The papers were received in March 1990 from Dr C J R Thorne, Biochemistry Department, Cambridge.

OUTLINE OF THE CAREER OF M DIXON

Malcolm Dixon was born in Cambridge in 1899. He was educated at the Perse School, Cambridge and privately, and went up to Emmanuel College, Cambridge in 1917 to read for the Natural Sciences Tripos, Part II of which he took in 1921. He then came under the influence of Sir Frederick Gowland Hopkins and began research on the biochemistry of enzymes at Cambridge, a topic to which he devoted most of his research career. He was appointed University Demonstrator in 1923 and Lecturer in 1928.

During the Second World War Dixon directed a research group studying the chemical reactions of poison gases. At the end of the war his standing in enzymology was recognised by the creation of a Subdepartment of Enzyme Biochemistry in the Cambridge Biochemistry Department with Dixon as Director; he was also promoted to Reader in Enzyme Biochemistry by the University. He had already been elected to the Fellowship of the Royal Society in 1942.

In 1956 Dixon was appointed Chairman of the International Union of Biochemistry (IUB) Commission on Enzymes, which considered questions of nomenclature. It reported successfully in 1961. In 1958 he published (in collaboration with E C Webb) the comprehensive treatise Enzymes. Second and third editions of this internationally authoritative work followed in 1964 and 1979. Dixon was appointed Professor of Enzyme Biochemistry on 1 January 1966 and retired nine months later. He died on 7 December 1985 aged 86.

For a full account of the life and career of Dixon see R N Perham's Royal Society memoir (Biographical Memoirs of Fellows of the Royal Society, 34, 1988).

#### DESCRIPTION OF THE COLLECTION

The material is presented in the order given in the List of Contents. The collection is particularly strong in documentation of Dixon's scientific research, his enzyme nomenclature work for IUB and the various editions of  $\underline{\text{Enzymes}}$ .

Section A, Biographical, is very slight but includes Dixon's autobiographical notes and bibliography.

Section B, Research, is one of the most important in the collection. There is a sequence of notebooks covering a period of over fifty years from 1917. Of particular interest, for example, are the books used for notes of the lectures of J Barcroft, T S Hele, F G Hopkins and R A Peters and for wartime research by Dixon and his collaborators R van Heyningen, J A Cohen and D M M Needham. The wartime research is also represented by an extensive correspondence, committee papers and the research reports of Dixon's group.

Section C, Cambridge, provides interesting documentation of the Biochemistry Department. There is material relating to the Subdepartment of Enzyme Biochemistry, staff meetings and committees, teaching and requests to visit and work with Dixon.

Section D, Lectures and Publications, brings together Cambridge biochemistry lecture notes, informal research talks, invitation and public lectures and extensive documentation for <a href="Enzymes">Enzymes</a>. The <a href="Enzymes">Enzymes</a> material is principally correspondence with the publisher (Longmans) for the three editions, E C Webb for a period of nearly 20 years from 1962 when he moved from Cambridge to Australia, and scientific colleagues generally.

Section E, Societies and Organisations, is dominated by papers relating to the IUB Commission on Enzymes which include correspondence, minutes of meetings and the series of numbered documents circulated to Commission members. There are also later IUB enzyme nomenclature papers sent to Dixon for information.

Section F, Correspondence, does not include extensive exchanges with individuals and has accordingly been arranged in a chronological sequence 1946-78. There is also a references and recommendations subsection which is subject to restricted access.

#### ACKNOWLEDGEMENTS

We are very grateful to Dr Thorne for making the papers available and to Dr Elizabeth Leedham-Green, Cambridge University Library, for advice and encouragement.

Peter Harper Timothy E Powell Bath 1990

SECTION A	BIOGRAPHICAL A.1 - A.7
A.1	<u>Times</u> obituary 10 December 1985.
A.2, A.3	'Autobiographical Notes' by Dixon. 47pp + list of publications.
	2 folders.
A.4	Lists of Dixon's research students, collaborators.
A.5	Notice of appointment as Senior Demonstrator in Biochemistry 1923.
	Dixon's undated note on the 'Rockefeller Lectureship' to which he was appointed in 1928.
	Curriculum vitae. <u>c</u> 1942.
A.6	Application for the Quick Professorship of Biology at Cambridge, in succession to D Keilin, 1952.
A.7	Correspondence 1967-71.

SECTION B

## RESEARCH

B.1 - B.153

	B. 1 - B. 42	NOTEBOOKS	
	B. 43 - B.126	CHEMICAL DEFENCE I	RESEARCH
	B.127 - B.153	MISCELLANEOUS	
NOTEBOOKS			
B.1	Chemistry, October 19	17.	
× %			
в.2	Biology.		
в.3	Physics.		
B.4	Physics.		
B.5	Notes on lectures by	Barcroft, Peters, 1	Marshall.
в.6	Notes on lectures by	Hopkins, Peters, H	ele.
в.7	Experimental results	26 August 1922 - 10	O October 1923
	and (in a different h [?1924].	and) 12 October [?	1923 ] - 5 March
B.8	Experimental results with the names of Dix	1924-25. Front co	over inscribed
	with the hames of bix	on and b b marrow	
в.9	Experimental results	1925-30.	

B.10	Experimental results 4 March - 17 May. Enclosures used for notes include 1928 examination papers and Society for Experimental Biology notice of election of council and officers for 1931. Enclosures also include incomplete draft relating to O H Warburg's criticism of Dixon's work.
B.11	Notes on the literature; experimental results (various hands) 1929-31. A graph inscribed 'R Hill' is enclosed.
B.12	Experimental results 1931-33.
в.13	Experimental results 1931, 1933-35, 1937.
в.14	Experimental results 1936-37.
B.15	Experimental results 1937-38.
в.16	Experimental results 1937-39 (L G Zerfas).
B.17	Biochemistry Part II practical work 1938-41.  Duplicated class sheets are folded into the notebook.
в.18	Experimental results 7 August - 5 November 1940. 'Book 1'. Contents list and date span at front. This is the first of Dixon's wartime chemical defence research notebooks.
в.19	Experimental results 6 November 1940 - 24 March 1941. 'Book 2'. Contents list and date span at front.
в.20	Experimental results 25 March 1941 - 22 January 1942. 'Book 3'. Contents list and date span at front.

B.21	Experimental results 15 March 1937 - 14 May 1940, 28 February 1942 - 7 August 1942. 'Book 4'. Contents list and date span at front. Number, contents list and date span relate to (1942) chemical defence research only.
в.22	Experimental results 10 August - 16 December 1942, 3 December 1957. 'Book 5'. Contents list and date span at front.
в.23-в.27	Notebooks recording chemical defence research kept by Ruth van Heyningen.
в.23	'H on Enzymes' 14 October 1940 - 4 March 1941. Index at front.
в.24	'HK/compounds + CSH' 3 March - 11 June 1941. Index at front.
в.25	'All HK expts' 12 June 1941 - 10 January 1942. Index at front.
в.26	'Properties of HK/S' 15 December 1941 - 30 July 1942. Index at front.
в.27	'K, OTH, S, etc on enzymes' 1 August 1942 - 15 January 1943. Index at front.
в.28	Notebook recording chemical defence research kept by J A Cohen and D M M Needham 5 December 1942 - 22 June 1943.

Records of wartime reports sent to Dixon under the B.29 following headings: Ministry of Supply reference number, date received, subject, forwarded to and date 1943-47; also records of postwar reports (reference number and date returned only) 1953-62. Experimental results 14 November 1944 - 25 September B.30 1947, 8 February - 14 March 1958. Large format 1952 diary used for records of research. B.31 Contents list (not in Dixon's hand) Preparations. B.32 dated December 1957. Typescript preparation sheets (originally stapled to the right hand page) are enclosed. 'Note Book I'. Preparations, procedures etc. Various B.33 Entries dated in 1958 and 1959. hands. 'Note Book II'. Various hands. Entries dated in B.34 1962 and 1963. Experimental results 27 February 1958 - 6 June 1962. B.35 'Book No.I P Kenworthy'. Experimental results B.36 5 December 1963 - 13 July 1964. Kenworthy was Dixon's personal laboratory assistant. Experimental results 'Book No.II P Kenworthy'. B.37 15 July 1964 - 18 September 1965. 'Book No. III P Kenworthy'. Experimental results B.38 23 September 1965 - 18 August 1966.

в.39	Experimental results 11 April 1967 - 18 November 1969.
в.40	'Olivetti Programmes' nd.
B.41	Small format notebook used for research notes nd latest bibliographical reference 1954.
B.42	Small format notebook nd.

#### CHEMICAL DEFENCE RESEARCH

During the Second World War Dixon's research was largely concerned with the biochemistry of chemical warfare agents. He directed an 'extramural research team' under the Chemical Defence Research section of the Ministry of Supply which studied lachrymators, dialkyl fluorophosphonates, Lewisite and mustard gas and related compounds. His team included at various times: D M M Needham, K Bailey, R Hill, J F Danielli, P D Mitchell, E C Webb, G D Greville, J A Cohen, R van Heyningen, C Lutwak-Mann and J F Mackworth. The results of the research were presented to the Ministry in 33 reports, an almost complete sequence of which is presented below. Much of the work, 'classified' at the time, was published after the war and contributed greatly to the postwar development of the chemical study of enzymes. See Memoir by R N Perham (Biographical Memoirs of Fellows of the Royal Society, 34 (1988), 111, 122-123.

The material is presented as follows:

B. 43 - B. 64	Correspondence 1939-47
в. 65 - в.100	Reports from Dixon's research group 1941-45
B.101 - B.110	Chemical Board Biochemical Group/ Biochemical Subcommittee meetings 1941-44
B.111 - B.115	Correspondence 1947-62
B.116 - B.119	Notes and drafts
B.120 - B.126	Background material

For notebooks relating to wartime research see B.18 - B.30.

# Correspondence 1939-47

B.43	1939 (one letter only), 1940 July - December
в.44	1941 January - April
в.45	1941 May - August
в.46	1941 September, October
	Includes 'Some considerations on the biochemistry of lachrymation' by H N Rydon, Porton, 27 October 1941. 5pp typescript.
в.47	1941 November, December and nd.  Includes 'Summary of proceedings of the biochemical group', 2pp typescript and 'Notes on recent experiments' by J F Mackworth, lp typescript.
в.48	1942 January, February
в.49	1942 March, April
в.50	1942 May, June
B.51	1942 July, August
в.52	1942 September, October. Includes ms notes by E C Webb.

B.53	1942 November, December and nd.
	Includes Dixon's comments on American research.
B.54	1943 January, February
B.55	1943 March, April
в.56	1943 May, June
B.57	1943 July, August
B.58	1943 September, October
	Includes Dixon's notes 'On the desirability of an extended study of enzyme inhibitors as a means of bringing to light new classes of C W agents', 13 September, 6pp typescript and 'Notes on meeting
	of physiological mechanisms group', New York, 27 August sent to Dixon by the British Central Scientific Office, Washington.
B.59	1943 November, December
в.60	1944 January - April
B.61	1944 May - August
в.62	1944 September - December and nd.
	Includes report on visit to Professor Bacq at Liège University by H Cullumbine, Porton, 14 November.
в.63	1945
<b>D.</b> 03	Includes note on informal meeting to discuss the continuance of work on the biochemistry of mustard gas.

B.64 1946-47

Includes list of titles and authors of manuscripts submitted for publication in the USA by R C Fuson and J S Fruton, list of proposed papers on the biochemistry of war gases by members of Dixon's group, and reprint of 'Biochemical research on chemical war agents' by Dixon and Needham, Nature, 158 (1946).

# Reports from Dixon's research group 1941-45

- B.65 Report no.1 'The metabolism of normal and vesicant-treated skin' by D M M Needham and Dixon, February 1941. 13pp typescript.
- B.66 Report no.2 'The effect of vesicants on purified pyruvic oxidase' by Dixon and Needham, February 1941.

  9pp typescript.
- B.67 Report no.3 'The action of H on purified enzymes' by R van Heyningen, February 1941. 6pp typescript.
- B.68 10 figures inscribed 'Report no.1' and dated 21 March 1941.
- B.69 12 figures inscribed 'Report no.2' and dated 21 March 1941.

B.78

#### Research

'Fig.11' dated 21 March 1941. B.70 Report no.4 'The effect of lachrymators on enzyme B.71 systems' by J F Mackworth. 10pp typescript + figs dated 17 September 1941. Report no.5 'Hexokinase: an enzyme inhibited by B.72 vesicants' by Needham, Dixon and van Heyningen, March 3pp typescript with ms additions and corrections; 4pp typescript. Report no.6 'The effect of some non-vesicant substances B.73 on skin metabolism and enzyme systems' by Dixon and 3pp typescript. Needham, nd. Report no.7 'Studies on the action of war gases on B.74 hormones. 1. the action of  $\beta\beta$  dichlorodiethylsulphide on insulin' by Dixon, J F Danielli, Needham and Mackworth, nd. lp typescript. Report no.8 'Studies on the mechanism of blister formation' B.75 9pp typescript + figs dated by J F and M Danielli. 17 September 1941. Report no.9 'The use of frogs in testing for vesicant B.76 activity' by J F and M Danielli. 18 December 1941. 4pp typescript. Report no.10 'The properties and -SH nature of hexokinase' B.77 by van Heyningen circulated 31 December 1941. 13pp typescript + figs. Report no.11 'Inhibition of hexokinase and skin glycolysis as a test for vesicants' by Dixon, van Heyningen and Needham circulated 31 December 1941. 9pp typescript + table.

Report no.12 'The effect of aqueous solutions of

lachrymators on the eyes' by Dixon and Needham nd.

2pp typescript.

- B.79 Report no.13 'Mode of action of fluorophosphate esters, with an enzyme test for their potency' by Mackworth, March 1942. 6pp typescript.
- B.80 'Preliminary report on the biochemical effects of S'
  by Needham, R Hill, van Heyningen, Mackworth, J F Danielli,
  J Morgan and Dixon nd but attached to two further items
  dated 27 and 28 March 1942 respectively. 4pp typescript.

  'Addendum to preliminary report on S from the Cambridge
  Biochemical Laboratory' 6 April 1942. 4pp typescript
  + figs.
- B.81 Report no.14 'Some effects of H on skin metabolism (with an appendix on the mechanism of glycolysis)' by Needham and Dixon June 1942. 12pp typescript + figs.
- B.82 Report no.15 'The effects of vesicants on phosphokinases' by Needham. 6pp typescript + figs.
- B.83 Report no.16 'The toxicity of DTH' by E C Webb and van Heyningen circulated 25 February 1943. 6pp typescript + figs.
- B.84 Report no.17 'Natural vesicants of plants. Protoanemonin' by Hill and van Heyningen circulated 1 March 1943.

  8pp typescript + appendix.
- B.85 Report no.18 'The effect of H on the heart-rate of the rat', by J A Cohen circulated 20 June 1943.

  4pp typescript + table.

- B.86 Report no.19 'The phosphokinase theory of vesication: its present position' by Dixon circulated 21 June 1943. 19pp typescript + fig.
- B.87 Report no.20 'Interim report on the study of capillary permeability to protein in lewisite poisoning' (joint report with Physiological Laboratory, Porton) by P D Mitchell, J F Danielli, G R Cameron, R H D Short circulated 23 July 1943. 4pp typescript.
- B.88 Report no.21 'Preliminary experiments on the mechanism of systemic poisoning by H' by Mackworth 16 September 1943. 4pp typescript with ms corrections.
- B.89 Report no.22 'On the mechanism of systemic poisoning by H' by Needham, Cohen and A M Barrett 16 September 1943. 37pp typescript with ms corrections and additions.
- B.90 Report no.23 'The fate of injected radio-H in the body'
  (joint report with the Medical College of St Bartholomew's
  Hospital) by J C Boursnell, Cohen, G E Francis and
  Needham nd (latest reference August 1943). 4pp typescript
  + figs.
- B.91 Not used.
- B.92 Report no.24 'A study of the local lesion following application of lewisite to the skin, and of the action of lewisite on skin nuclear phosphatase' by J F Danielli circulated 2 February 1944. 10pp typescript + figs.
- B.93 Report no.25 'Local and systemic plasma albumin exchanges in lewisite poisoning with special reference to therapeutic measures' (joint report with Physiological Laboratory, Porton) by P D Mitchell, J F Danielli and R H D Short circulated 29 April 1944. 8pp typescript + figs and photograph.

- Report no.26 'BAL-INTRAV: a new non-toxic thiol B.94 for intravenous injection in arsenical poisoning' (joint report with Organic Chemistry Department, Imperial College London) by J F and M Danielli, L N Owen and G Shaw 21 April 1944. 12pp typescript. Report no.27 'The potency of fluorophosphate esters B.95 and related compounds as inhibitors of cholinesterase' by Webb circulated 18 May 1944. 2pp typescript + figs. Report no.28 'The fate of injected radio-H in the B.96 body - II' (joint report with Medical College of St Bartholomew's Hospital) by T E Banks, J C Boursnell, G E Francis, C Lutwak-Mann and Needham circulated 8 August 1944. 6pp + figs. Report no.29 'The fate of injected radio-H in the B.97 body - III. Excretion in the bile' (joint report with Medical College of St Bartholomew's Hospital) by Banks, Boursnell, Francis and G D Greville circulated 14 September 1944. 4pp typescript + fig. Report no.30 'The action of H on enzymes and proteins' B.98 by K Bailey, Webb, Banks, Boursnell, Francis and Dixon circulated 21 September 1944. 22pp typescript + figs. Report no.31 'The action of H-sulphoxide on tissues B.99 and proteins (with an appendix on radio-H on normal human serum)' by Banks, Boursnell, Francis, Lutwak-Mann, Bailey and Webb circulated 6 November 1944. 10pp typescript + figs.
- B.100 Report no.33 'The fate of injected radio-H in the body IV.
  Excretion in the urine and faeces' by Banks, Boursnell,
  Francis and Greville circulated 24 February 1945.
  7pp typescript + fig.

1941-44.	
B.101	Notes of Biochemical Group meetings, Oxford 16 and 17 July 1941.
B.102	Notes of Biochemical Group meetings, 28 and 29 November 1941.
в.103	Notes of special Biochemical Group meeting to discuss research work on S, London, 20 May 1942.
B.104	Notes of Biochemical Group meetings, Oxford, 3 and 4 September 1942.
в.105	Notes on Biochemical Subcommittee meeting, 14 January 19
в.106	Notes on meeting of NDRC Section 9.3.2. to discuss the action of mustard and related vesicants on enzymes and proteins, 25 February 1943.
B.107	Notes on the $\underline{ad}$ $\underline{hoc}$ meeting to discuss hydrolysis of vesicants, 16 March 1943.
в.108	Notes on informal meeting of the Biochemical Subcommitte Cambridge, 1 and 2 July 1943.
в.109	Memorandum by Dixon 'on the desirability of an extended study of enzyme inhibitors as a means of bringing to liqued new classes of C W agents'. The memorandum was prepared for a joint meeting of the Biochemical and Chemical Subcommittees, 5 October 1943.

B.110 Agenda for Biochemical Subcommittee meeting, London, 23 March 1944.

Notes of Biochemical Subcommittee meeting, 26 September 1944.

#### Correspondence 1947-62

B.111 1947 - 50

Includes invitation (1947) to serve on Biology and Chemistry Committees of the Ministry of Supply's Chemical Defence Advisory Board.

B.112 1951 - 59

Includes correspondence  $\underline{\text{re}}$  committee membership and papers on nerve gas and  $\overline{\text{first}}$  aid treatment.

B.113 1960 - 62

Includes invitation to serve as consultant to the Director, C D E E Porton, 19 January 1962.

B.114 Agenda for ninth meeting of Enzyme Panel, 7 April 1960.

B.115 Records of return of documents, 1950-62.

## Notes and drafts

B.116-B.119 Ms and typescript notes and drafts by Dixon and colleagues relating to chemical defence research.

4 folders.

#### Background material

B.120-B.126 Duplicated and printed material on mustard gas, British Anti-Lewisite (BAL) etc.

7 folders.

## MISCELLANEOUS

в.127	Graphs; ms notes on backs of 1928 examination papers. Notes refer to O H Warburg's criticism of Dixon's work.
в.128	Experimental results 1930-36. 3pp ms.
в.129	'Nomograms'. Contents of folder so inscribed. Printed items are dated 1945 and 1953.
B.130	'Nomograms' nd.
в.131	'Meyerhof's ATP Calc'. 7pp ms. Bibliographical reference 1943 but ms may also relate to Dixon's letter to Meyerhof of 12 November 1949. See F.1.
в.132	'Abstract of Experimental Results' May 1946. 6pp ms not in Dixon's hand.
в.133	Contents of Dixon's folder. Ms notes, graphs, tables, spectra etc. Items dated 1952, 1958, 1959.
B.134	Circuit diagrams etc. 1956 and nd.
B.135-B.140	Contents of Dixon's ring binder divided into six for ease of reference; spectra of cytochrome <u>c</u> , cytochrome oxidase, cytochrome reductase 1958-61. Not in chronological order.
B.141	Contents of Dixon's folder. Ms notes, graphs, spectra, reprints etc. 1959, 1965, 1966. Relates to work with K Kleppe.

- B.142 Invoices, draft application and reports, brief correspondence relating to research supported by Royal Society 1961-64, 1972. Relates (in part) to work with K Kleppe.
- B.143 Experimental results 1962, 1964-65.
  - 'Model of Pauling Helix'. 2pp typescript by Dixon 16 November 1964.
- B.144, B.145 Contents of Dixon's folder divided into two for ease of reference: spectra, graphs. 1964, 1965.
- B.146, B.147 Contents of Dixon's ring binder divided into two for ease of reference: graphs 1965, 1966. Not in chronological order.
- B.148-B.153 Notes, drafts, data, graphs etc. nd. 6 folders.

SECTION C

CAMBRIDGE

C.1 - C.94

C.1 - C.93

BIOCHEMISTRY DEPARTMENT

C.94

GENERAL CAMBRIDGE UNIVERSITY

#### BIOCHEMISTRY DEPARTMENT

#### Subdepartment of Enzyme Biochemistry

C.1 'Postwar needs of the department of biochemistry', 10 January 1944. 6pp duplicated typescript + appendix.

'The future of enzyme work in the department' by Dixon, nd but incorporated (in part) in the preceding. 2pp typescript.

- C.2 'Probable needs of the Subdepartment of Enzyme Biochemistry' by Dixon, 28 September 1946.
  4pp typescript.
- C.3

  1950-52. Includes memos on 'Lectureship in Enzyme
  Biochemistry', 'Needs of Subdepartment of Enzyme
  Biochemistry for Quinquennium from 1952', 'Duplication
  of Part II Enzyme Practicals', 'Need for a Demonstrator
  from October 1 1953', and correspondence from F G Young
  (Sir William Dunn Professor of Biochemistry).
- C.4 1953-57, 1961-62. Includes memo on laboratory assistants, records of stores withdrawals and correspondece with Young.

C.5 - C.17 Annual reports comprising report of the director (Dixon) and reports of individual members of the Subdepartment.

C.5	1952-53	C.12	1960-61
C.6	1954-55	C.13	1961-62
C.7	1955-56	C.14	1962-63
C.8	1956-57	C.15	1963-64
C.9	1957-58	C.16	1964-65
C.10	1958-59	C.17	1965-66
C.11	1959-60		

Copies of correspondence between Young and central university administration  $\underline{re}$  the continuation of the Subdepartment on Dixon's retirement (1 October 1966), January-October 1966.

- C.19 Annual reports on Dixon's activities for the years 1966-67 to 1971-72.
- C.20 List of members of the Enzyme Discussion Group and their research interests, drawn up 17 November 1969.

'Preliminary application to the Science Research Council for support for work on enzymes in the Departments of Biochemistry and Chemistry', nd. Latest bibliographical reference 1969.

C.21 Ms notes, nd.

# Staff meetings and Committees

## Staff meetings

C.22 - C.33 Circulars, memoranda etc., for staff meetings  $\underline{c}$ .1944-64

C.22	<u>c</u> .1944-50	C.28	1961	
C.23	1951-52	C.29	1962 (1)	
C.24	1954-55	c.30	1962 (2)	
C.25	1956	c.31	1963	
C.26	1959	C.32	1964	
C.27	1960	C.33	nd	

## Staff meeting committees

C.34 - C.39 Reports, memoranda, minutes etc., for various ad hoc and standing committees 1950-66.

C.34	1950	C.37	1962-64
C.35	1955-56	C.38	1966
c.36	1957,1959	C.39	nd

#### 'Part II Committees'

C.40 - C.43 Reports, memoranda, minutes etc., 1950-66.

At a Staff Meeting on 17 April 1950 a Committee chaired by Dixon was appointed 'to consider the Part II teaching and report on desirable alterations'.

C.40	1950 (1)	C.42	1951		
C.41	1950 (2)	C.43	1953,	1959,	1966

## 'Apparatus Committee'

C.44, C.45

Minutes, lists of equipment etc., 1950-52, 1960-65, nd.

This Committee chaired by Dixon held its first meeting on 2 May 1951.

C.44 1950-52

C.45 1960, 1962-63,1965, nd

#### Teaching

# Postgraduate courses

C.46 - C.54 Reports, proposals, memoranda, lecture lists etc., 1951-75.

9 folders.

#### Part II

C.55 - C.66 Notices, memoranda, reports, lists of students, supervisors, posts obtained etc., 1923, 1950-66. The 1923 item (C.55) is a table of experimental results for Advanced Class work and was found with the sequence of papers. C.64 is a copy of a lecture by Young on the Cambridge Biochemistry Part II to the Association for the Study of Medical Education, 13 May 1966.

12 folders.

C.67 - C.72 Syllabuses, timetables, lists of practicals, lectures etc., 1943-70.

6 folders.

C.73 - C.78 Duplicated teaching material, nd.

6 folders.

#### Applications for admissions

C.79 - C.89 Requests to visit/work with Dixon 1948-71.

C.79	1948-49	C.85	1960-61
C.80	1950-52	c.86	1962
C.81	1953	C.87	1963-64
C.82	1955-57	C.88	1965-66
C.83	1958	C.89	1967-68,1971
C.84	1959		

# Miscellaneous

C.90 Staffing 1950.

'Laboratory Accommodation' 1951-76. C.91

'Apparatus' various dates 1953, 1965, 1975. C.92, C.93

2 folders.

## GENERAL CAMBRIDGE UNIVERSITY

Miscellaneous items. Includes note on proposed C.94 biophysics department headed 'Biophysics' and

'Rideal (preliminary)', nd.

SECTION D

LECTURES AND PUBLICATIONS D.1 - D.88

D. 1 - D.20

LECTURES

D.21 - D.88

PUBLICATIONS

LECTURES

#### Cambridge biochemistry lecture notes

Variously paginated ms drafts. The material is D.1, D.2 undated and although probably kept at one time in binders was found as loose pages.

2 boxes.

#### Informal research talks

Ms drafts of talks probably given in Cambridge D.3-D.5 department. The drafts include talks on 'Triose D', 'Lactic D' of yeast', 'Principles of Mass Spectrometry', 'Beckman' and are, with one exception, undated.

3 folders.

#### Invitation and public lectures

- Paper on the 'respiratory mechanism', prepared for D.6 the British Association meeting, Dundee 1939 but not delivered owing to outbreak of war. Typescript paginated 2-8.
- 'Some properties of living matter in relation to its D.7 origin', Amsterdam 1952. 15pp ms.

# Lectures and publications

D.8	'Some aspects of enzyme specificity', Birmingham and Amsterdam 1952, and 'Enzyme Specificity', Bristol 7 May 1954. 22pp ms.
D.9	'Multi-enzyme systems', Manchester, 15 January 1954. 18pp ms.
D.10	'General Introduction' to Faraday Society Discussion on the physical chemistry of enzymes, Oxford, August 1955. 9pp typescript.
	Folder also includes correspondence, drafts from E C Slater etc.
D.11	'Impact Christianity on Biologist', Areopagus, Cambridge, 3 June 1965. 23pp ms.
D.12	'Enzymology-General Introduction', Kingston Technical College, 18 January 1966. 13pp ms.
D.13	'The Origin of Life', Emmanuel C.U., 28 April 1968. 16pp ms.
D.14	'Acceptor Specificity of Fs and FPs', T.C., 12 March 1969. llpp ms.
D.15	'The Pattern of Enzymes', Christian Medical Fellowship, London, 26 April 1969. 9pp ms.
	Folder also includes correspondence $\underline{\text{re}}$ arrangements.
D.16	'Is Science Enough', Colworth Christian Union, Unilever Research Laboratory, 25 June 1969. 17pp ms and 10pp typescript drafts.

D.17	'Cambridge contributions to biochemistry', 7th British Congress on the History of Medicine, Churchill College Cambridge, 10-13 September 1969.
	Correspondence re arrangements only.
D.18	'The origin of life - some difficulties in the "spontaneous generation" view', 2nd Conference of Research Scientists of the I.V.F., nd. 2pp typescript abstract.
D.19	'Nature and origin of living matter', nd. 24pp ms.
D.20	'The growth of Enz Biochem', nd. llpp ms.

### PUBLICATIONS

# General

<u> </u>	
D.21	Reviews of 1st, 2nd and 3rd editions of Manometric methods as applied to the measurement of cell respiration and other processes, 1934, 1943, 1951 and Multi-enzyme systems, 1949.
D.22	Two glass negatives for Manometric methods 1943.
D.23	3pp typescript on F G Hopkins's contribution to biochemistry $\underline{c}$ . 1943.
D.24	'The glyceraldehyde (phosphoglyceraldehyde) dehydrogenase of muscle' by R Caputto and Dixon, nd. Not listed in Dixon's bibliography at A.3.  Typescript drafts, figs, reprint of paper by Caputto and Dixon 1945, letter from Caputto 23 May 1947, etc.
D.25	'The metabolism of normal and vesicant-treated skin' by Dixon and D M M Needham, 1947. Not listed in Dixon's bibliography.  18pp typescript + protocols, tables, figs.
D.26	'D-Aspartate oxidase of kidney' by Dixon and P Kenworthy. <u>Biochim.biophys.Acta</u> 146, 54-76 (1967).  30pp typescript 'first draft' + tables; ms notes; letter of acceptance from journal.
D.27	'Spectrophotometric Units', 11 October 1971.

7pp typescript draft.

D.28	Untitled ms drafts, nd.
D.29, D.30	Correspondence with Cambridge University Press 1960-74.
	Principally relates to publication of a series of lectures on the history of biochemistry edited by J Needham. There are also references to Manometric methods and Multienzyme systems.
D. 29	1960, 1965-67.
D.30	1968-69, 1972, 1974.
D.31 - D.37	Miscellaneous publications correspondence, 1964-77 and nd.
D.31	1964. Re unpublished typescripts of R K Morton.
D.32	1966.
D.33	1966-67
D.34	1970-71.
D.35	1972.
D.36	1973-78.
D.37	Nd.

### 'Enzymes'

Dixon signed an agreement with Longmans & Co to write a comprehensive treatise on enzymes originally as a result of pressure from Marjory Stephenson who thought it would be desirable to have a book on enzymes as a companion volume to her own 'Bacterial Metabolism', published by the same firm. Dixon collected a great deal of material but came to see in time that he would be unable to manage it by himself and therefore invited E C Webb to collaborate with him. Work began in earnest in Dixon's sabbatical year 1954-55 and the first edition was published four years later in 1958. It was an enormous success and established itself as an internationally authoritative work; a second and revised edition followed in 1964. It was enlarged and updated again in 1979 when the authorship was expanded to include C J R Thorne and K F Tipton.

The material is principally correspondence with the publisher, Dixon's collaborator Webb and scientific colleagues generally and extends over a period of 25 years.

D.38 - D.44 Correspondence with publisher re 1st edition 1955-58.

D.38	1955	D.42	1957 (3)
D.39	1956	D.43	1957 (4)
D.40	1957 (1)	D.44	1958
D. 41	1957 (2)		

D.45 - D.48 Correspondence with publisher re 2nd edition 1962-64.

D.45	1962	D.47	1963	(2)
D 46	1963 (1)	D.48	1964	

D.49 - D.51 Correspondence with publisher re 3rd edition 1973	D.49 - D.51	Correspondence	with	publisher	re	3rd	edition	1973-
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D.49 1973-75

D.51 1979-80

D.50 1976-78

D.52 - D.73 Correspondence with E C Webb 1962-79 and nd.

D.52 1962 D.63 1971

D.53 1963 (1) D.64 1972

D.54 1963 (2) D.65 1973

D.55 1964 D.66 1974

D.56 1965 D.67 1975 (1)

D.57 1966 D.68 1975 (2)

D.58 1967 D.69 1976

D.59 1968 D.70 1977 (1)

D.60 1969 D.71 1977 (2)

D.61 1970 (1) D.72 1978

D.62 1970 (2) D.73 1979 and nd.

D.74 - D.82 Correspondence with scientific colleagues 1955-79 and nd.

D.74 1955 D.79 1965, 1968-69

D.75 1957 D.80 1970-71

D.76 1958-59 D.81 1972

D.77 1960-61 D.82 1973-76, 1979 and nd.

D.78 1962

- D.83 Correspondence <u>re</u> Japanese edition, 1960-63.
- D.84 D.88 Miscellaneous notes, drafts, data, figs etc., re
  Enzymes, the enzyme nomenclature work of the
  International Union of Biochemistry (see Section E)
  or Dixon's enzyme research.

5 folders.

SECTION E	SOCIETIES AND ORGANISATIONS E.1 - E.99
E.1 - E.6	BIOCHEMICAL SOCIETY
E.7 - E.97	INTERNATIONAL UNION OF BIOCHEMISTRY (IUB)
E.98	PHOTOELECTRIC SPECTROMETRY GROUP
E.99	ROYAL SOCIETY
BIOCHEMICAL S	OCIETY 1952-74
E.1	Membership and subscription 1967, 1970
E.2 - E.4	Biochemical Journal
	Correspondence <u>re</u> nomenclature, papers submitted by Dixon and colleagues, etc.
E.2	1952. Includes Dixon's comments on the nomenclature of coenzymes.
E.3	1953-54.
E.4	1964, 1971-72, 1974.
E.5, E.6	Colloquium on multienzyme systems, Cambridge, July 1966.

Correspondence <u>re</u> arrangements December 1965 - May 1966.

2 folders.

INTERNATIONAL UNION OF BIOCHEMISTRY (IUB)

1956-78

In 1956 the IUB appointed a Commission on Enzymes whose terms of reference were 'To consider the classification and nomenclature of enzymes and coenzymes, their units of activity and standard methods of assay, together with the symbols used in the description of enzyme kinetics'. Its members were A E Braunstein (USSR), S P Colowick (USA), P A E Desnuelle (France), M Dixon (UK), O Hoffmann-Ostenhof (Austria), A L Lehninger (USA), K Linderstrøm-Lang (Denmark), F Lynen (Germany); corresponding members: F Egami (Japan) and L F Leloir (Argentina). In 1959, on the death of Linderstrøm-Lang, E C Webb (UK) joined the Commission. Dixon was invited to be its Chairman and Hoffmann-Ostenhof was Secretary.

In the autobiographical notes that Dixon composed 1967-68 (A. 2 - A.3) he explained the background to the appointment of the Commission. 'It was becoming clear that the nomenclature of enzymology was rapidly getting out of hand, owing to the great increase in the number of known enzymes, the lack of any general system for naming them, and the custom that each discoverer of an enzyme had the right of naming it as he chose'.

The task of bringing order out of this confused situation was in Dixon's words 'an unenviable and huge one'. Fortunately a list of known enzymes, arranged systematically in the order of the reactions catalysed by them, had just been prepared by Dixon and

E C Webb for the book Enzymes which was due to be published two years later (see Section D). The availability of this list greatly lightened the Commission's work. Nevertheless 32 sessions of the main Commission and 30 sessions of Subcommissions were needed over a period of five years. The Commission's unanimous recommendations were printed in book form and presented by Dixon to the Council of the IUB in Moscow in 1961 where they were officially adopted.

Although Dixon was relieved to be able to turn to other things on the dissolution of the Commission he believed its work to have been of great value in creating order out of the threatened chaos in the subject. A small Standing Committee on Enzymes under E C Webb was appointed to consider criticisms and to keep the list up to date and this produced a revised version in 1964 which was also adopted by the IUB Commission of Editors of Biochemical Journals. Since then a series of revised enzyme lists have been produced as considered necessary by IUB or the International Union of Pure and Applied Chemistry.

The very considerable body of material relating to the work of the IUB Commission on Enzymes is presented as follows:

E. 7 - E.37	Enzyme Commission correspondence
E.38 - E.43	Enzyme Commission minutes
E.44 - E.69	Circulated Enzyme Commission documents EC-1 - EC.52
E.70 - E.75	Miscellaneous documents $\underline{re}$ the Enzyme Commission
E.76 - E.89	Circulated Standing Committee on Enzymes documents C.E.1 - C.E.36
E.90 - E.97	Miscellaneous documents <u>re</u> Enzyme Nomenclature

E.7 - E.37	Enzyme Commission correspondence	
E.7 - E.10	O Hoffman-Ostenhof	1956-61
E.7	1956-57	
E.8	1958	
E.9	1959	
E.10	1960-61	
E.11 - E.14	R H S Thompson	1956-62
E.11	1956	
E.12	1957	
E.13	1958-59	
E.14	1960-62	
E.15	S P Colowick	1959-61
E.16	M R Lemberg	1959-61
	Includes report by R Hill for subcomon the nomenclature of cytochromes.	nmission
E.17 - E.19	W Klyne et al	1959-63
	Klyne was the British representative Nomenclature Commission of IUPAC.	e of the Biological

E.17	1959. Includes draft of IUPAC Commissio 'Abbreviations and symbols for chemical nam special interest in biological chemistry'.	
E.18	1960	
E.19	1961-63	
E.20	R A Alberty	1959
E.21	E C Slater	1960
E.22	A L Lehninger	1960
E.23	D R Bangham	1960
	Includes note from Department of Biological NIMR on international standardization of en	
E.24	J A Christiansen	1960
	Christiansen was President of the Commissio Physico-Chemical Symbols and Nomenclature.	n on
E.25	W V Thorpe	1960-61
E.26	E H Stotz	1960
E.27	H S Davies	1960

E.28	E J King	1960
	Includes note by M E Freeman on	clinical enzyme unitage.
E.29	S R Dickman	1960
E.30	A E Braunstein	1961
E.31	C E Dalgliesh	1961
	Includes memorandum on nomenclat	ure of iso-enzymes.
E.32	J M Luck	1961
E.33	Pergamon Press Limited (I R Maxwell)	1961
E.34	H - U Bergmeyer	1965
E.35	J King	1966
E.36	C A Fewson	1966
E.37	H Neujahr	1973

- E.38 E.43 Enzyme Commission minutes
- E.38 Minutes of meeting of Ad hoc Committee called by Professor Florkin for the establishment of the Commission on Enzymes, Paris, 31 July 1956.
- E.39 Minutes of 1st Commission meeting, Paris, 22 and 23 July 1957.

List of the documents circulated amongst the Commission members until 31 December 1957 (Appendix to minutes of 1st Commission meeting).

E.40 Notes of Dixon's intended remarks for Commission meeting, August 1958 with ms addition 'but MD could not attend'.

Draft minutes of 2nd Commission meeting, Semmering Austria, 29 and 30 August.

Interim report of Commission submitted to IUB General Assembly on 1 September 1958.

Minutes of 3rd IUB General Assembly, Vienna, 1 September 1958.

Comments on the 'Enzyme list', nd.

E.41 Notes for Dixon's remarks for Commission meeting 1959.

Draft minutes of 3rd Commission meeting, Starnberg, Bavaria, 25-28 August 1959.

E.41 cont'd Minutes of meeting of joint IUPAC-IUB Subcommission on clinical enzyme units, Starnberg, 25 August 1959.

Minutes of joint meeting of the Enzyme Commission of IUB and the Biological Nomenclature Commission of IUPAC, Munich, 27 August 1959.

E.42 Dixon's notes for Commission meeting, September 1960.

Draft minutes of 4th Commission meeting, Cambridge, 5-10 September 1960.

Dixon's notes for meeting with IUB Editorial Commission 1960.

Minutes of joint meeting of Editorial Commission and Enzyme Commission, Cambridge, 9 September 1960.

Documents re definition of enzyme activity etc.

E.43 Dixon's ms notes headed 'Draft for ECs printed Report' 1961.

Minutes of 5th Commission meeting, Cassis, France, 21-24 March 1961.

Dixon's notes for IUB General Assembly, Moscow, 14 August 1961.

Minutes of 4th General Assembly, Moscow, 14 August 1961.

- E.43 cont'd Dixon's notes for IUB Council, Moscow, 16 August 1961.

  Minutes of 4th Council meeting, Moscow, 16 August 1961.
- E.44 E.69 Circulated Enzyme Commission documents EC.1 EC.52. Not a complete sequence.
- E.44 EC.1 'List of Enzymes. From Dixon and Webb's "Enzymes", to be published early in 1958'.
- E.45 EC.2 'Bericht zur geplanten Revision der Enzymnomenklatur' by O Hoffman-Ostenhof.
- EC.3 'Protokoll zu den Tagungen der Nomenklatur-Kommission in Berlin am 28. - 29.2 und in Mosbach von 11. - 12.4.1956'. April 1956.
- EC.4 'The Nomenclature of the Nicotinamide-nucleotide Coenzymes' by Dixon, 20 March 1957.
- E.48 EC.5 'Some Topics for Consideration' by Dixon, 14 May 1957.
  - EC.6 'Terminology of Enzyme Formation' by M Cohn, J Monod, M R Pollock, S Spiegelman and R Y Stanier. Reprint from Nature, 172, 1096 (1953).

- E.49 EC.7 'Nomenclature of Enzymes of Fatty Acid Metabolism' by H Beinert, D E Green, P Hele, O Hoffman-Ostenhof, F Lynen, S Ochoa, G Popjak and R Ruyssen. Reprint from Biochem. J 64, 782-784 (1956).
  - EC.8 'A. Remarks on classification of enzymes (ad EC.1 and EC.3)'; 'B. Proposals for a Classification of Pyridoxal Enzymes on a Chemical Basis'; 'C. Special Remarks ad EC.1'; 'D. Replies to Questions in EC.5'; 'E. Comments on General Enzymological Terminology (ad EC.3 and EC.4)'; 'F. Further Suggestions Concerning General Terminology By A Braunstein'.
  - EC.9 'Provisional proposals for classification and nomenclature of cytochromes' by F Egami.
- E.50 EC.10 'Some remarks on the classification of enzyme reactions' by O Hoffman-Ostenhof, 15 July 1957.
- E.51 EC.11 'Amendments to the List of Enzymes (EC.1)' by Dixon, 16 July 1957.
  - EC.12 'From Dixon and Webb: ENZYMES (appearing in 1958)... Table IX.3 CYTOCHROMES'.
- E.52 EC.13 Material prepared by Subcommission on Pectinolytic Enzymes of the IUPAC Commission on Biochemical Nomenclature.
  - EC.14 Addendum to EC.4 by Dixon, 13 January 1958.

E.58

EC.26

#### Societies and organisations

'Provisional Proposals for Classification E.53 EC.15 and Nomenclature of Cytochromes' by M R Lemberg, 19 February 1958. 'On the Nomenclature of Coenzyme A EC.16 Transferring Enzymes' by J R Stern, 24 March 1958. 'Some considerations on the classification E.54 EC.17 and nomenclature of enzymes involved in processes of nitrogen metabolism' by A E Braunstein, 20 April 1958. 'Provisional Proposals for Classification and EC.19 Nomenclature of Cytochromes' by E Stotz, July 1958. 'Recommendations for expression of enzyme EC.20 E.55 activity' by S P Colowick, 7 July 1958. 'A letter from the Commission Member S P Colowick to the Secretary', 14 July 1958. 'General Principles of the Classification and E.56 Nomenclature of Glycosidases' by T Miwa, S Akabori, M Nakamura and Z Nikuni, Osaka, July 1958. ""Enzymic" vs. "Enzymatic" A letter to the E.57 EC.23 President of the Commission' by F G Young, 7 August 1958. EC.24 'Remarks on some linguistic aspects of the classification and names' by H Sykes Davies, August 1958.

'Supplementary Comments on our Proposals

(Document EC.9) for Classification and Nomenclature of

Cytochromes' by F Egami, November 1958.

- E.58 cont'd EC.28 'From a Letter to the Secretary of the Commission' from Th Bersin, 5 February 1959.
  - EC.29 'Comments on EC.16 (A Letter to the Secretary of the Commission)' by S Ochoa, 10 February 1959.
- EC.30 'Further Comments on EC.16 (Letters to the Secretary of the Commission)' from D E Green and H Beinert, 20 April 1959; O Hayaishi, 9 March 1959; P Hele, 11 March 1959.
  - EC.31 'On Oxidase Nomenclature. (A Letter to the President of the Commission)' from H S Mason, 31 October 1958.
  - EC.32 '"Cytochromes" or "Electron Transferases"?' by F Egami.
- EC.33 'Proposals for the Nomenclature of some Enzymes involved in intermediary nitrogen metabolism, on the basis of the List of Enzymes of Dixon & Webb (1958)'.
  - EC.34 'Comments on Document EC.23' by H S Davies, 26 July 1959.
  - EC.35 'Comments on Document EC.33. A Letter to the Secretary of the Commission' by A Meister, 29 July 1959.
- E.61 EC.36 'Comments on Coenzyme Nomenclature' by Dixon, 9 June 1959.
  - EC.37 'Questionnaire for the Participants of the Canberra Meeting of the Subcommission on Cytochromes' by R Lemberg, June 1959.

- E.61 cont'd EC.38 'Minutes of the Meeting of the Subcommission on the Nomenclature of Cytochromes, Canberra, 6th and 7th September 1959'.
- E.62 EC.39 'Comments of Prof. Stotz and Dr Falk on EC.38 with answers of the Convenor.'
  - EC.40 'Report of the Subcommission on Proteolytic Enzymes: Chicago Meeting April 1960'.
  - EC.41 'Minutes of the Meeting of the Subcommission
    on the Cytochrome Canberra, September 6th and September
    7th, 1959 (Revised Version of EC.38)'.
- E.63 EC.42 'Key to Numbering and Classification of Enzymes'.

Second copy 'as amended at Cambridge Sept. 1960'.

- E.64 EC.43 'Draft List of Enzymes'.
- E.65 'List of proteolytic enzymes for insertion as section 3.4 of corrected enzyme list'. January 1961.
- E.66 EC.46 'The Prefixes Pre and Pro in Names of Enzyme Precursors' by H S Davies, 7 November 1960.
  - EC.47 'Comments on Draft List of Enzymes, EC.43' by A E Braunstein, 1 December 1960. See also E.74.
  - EC.48 'A Correspondence on Ribonuclease'.

The correspondents are Dixon, E F Gale and R Markham, October-November 1960.

- EC.49 'Report of the Commission on Enzymes of the International Union of Biochemistry. Appendix D Key to Numbering and Classification of Enzymes'.
- EC.49 'Report of the Commission on Enzymes of the International Union of Biochemistry. Appendix E List of Enzymes'.
- E.69 EC.51 'Comments on EC.46. A Letter to the President of the Commission'. From R H S Thompson, 2 March 1961.
  - EC.52 'Comments on the Enzyme List'. There are comments from P P Cohen, G Schmidt, G B Brown, A Meister, A E Braunstein, K Moldave, S P Colowick, O Touster, F Egami and Dixon, January March 1961.
- E.70-E.75 Miscellaneous documents  $\underline{re}$  the Enzyme Commission 1937, 1955-60 and nd.
- E.70 Documents <u>re</u> International Union of Chemistry Commission on the Reform of Biochemical Nomenclature 1937.

Includes correspondence between Sir Arthur Harden (President) and Dixon.

E.71 Draft paper on 'Nomenclature of enzymes of fatty acid metabolism' by H Beinert, D E Green, Priscilla Hele, O Hoffman-Ostenhof, F Lynen, S Ochoa, G Popjak and R Ruyssen. Dated 30 July 1955 at the 2nd International Conference on Biochemical Problems of Lipids, Ghent, Belgium.

E.72 Carbon of Dixon's letter to members of Commission setting out terms of reference, procedure etc., 23 February 1957.

List of names and addresses of members of Commission.

'International Commission on Enzymes' by O Hoffmann-Ostenhof and R H S Thompson. Reprint from Nature, 181, 452 (1958).

Correspondence with J R Stern <u>re</u> nomenclature of fatty acid cycle enzymes and the condensing enzyme, June, August 1959.

International Union of Biochemistry Bulletin No.3 December 1959.

E.74 'Comments on Draft List of Enzymes Doc. EC.43' by A E Braunstein 1 December 1960. This is the paper from Braunstein which was circulated as EC.47. See E.66.

Copy of letter from P A E Desnuelle to E C Webb enclosing 'suggestions for the list of proteolytic enzymes', 9 November 1960.

International Union of Biochemistry Bulletin No.4 December 1960.

E.75 Report for the Subcommission on the Nomenclature of Cytochromes by R Hill, nd.

'General aspects of standardization in enzyme assays' by E C Webb, nd.

'Transferases' and 'Lyases' by 'H-O' (Hoffman-Ostenhof), nd.

- E.76-E.89 Circulated Standing Committee on Enzymes documents
  C.E.1-C.E.36. Not a complete sequence. Dixon was
  not a member of the Committee but was sent the documents
  for information by its secretary E C Webb.
- E.76 C.E.1 'Statements on Iso-Enzymes or Isozymes submitted to the Committee' January 1962. There are statements from the <u>ad hoc</u> Committee on Isozyme Nomenclature (chaired by C L Markert), New York, January 1961, C J R Thorne, R J Wieme and Dixon.
  - C.E.2 'Statement by Secretary', November 1962. Sets out comments received on questions respecting isoenzymes.
- E.77 C.E.3 'Comments Received on Coenzyme Nomenclature', November 1962.

- E.77 cont'd C.E.4 'Comments Received on Enzyme Units and Kinetics', November 1962.
  - C.E.5 'Corrections in Reprinting of Enzyme Report', November 1962.
- E.78 C.E.6 'Comments Received on Group 1 of the Enzyme List', December 1962.
  - C.E.7 'Comments Received on Group 2 of the Enzyme List', December 1962.
  - C.E.8 'Comments Received on Group 3 of the Enzyme List', December 1962.
- E.79 C.E.9 'Comments Received on Group 4 of the Enzyme List', December 1962.
  - C.E.10 'Comment Received on Group 5 of the Enzyme List, December 1962.
  - C.E.11 'Comment Received on Group 6 of the Enzyme List', December 1962.
- E.80 C.E.12 'General Comments Received on the Report of the Enzyme Commission', December 1962.
  - C.E.13 'New Enzymes in Dixon and Webb', December 1962.

- E.81 C.E.14 'Altered entries in Dixon and Webb', January 1963.
  - C.E.15 'Further Comments Received by the Commission of Editors of Biochemical Journals on the Report of the Enzyme Commission', January 1963.
- E.82 C.E.16 'Comments from Professor E C Slater on Enzyme Commission Report concerning some oxidizing enzymes', February 1963.
  - C.E.17 'Letter from Professor C L Markert to the Secretary', February 1963.
- E.83 C.E.18 'Comments on Enzyme Commission Report received at the New York meeting of the Standing Committee', February 1963.
  - C.E.19 'Correspondence with Dr Fritz Lipmann',
    February 1963.
- E.84 C.E.21 'Correspondence with Editorial Board of the Biochemical Journal on Hyphens v. Colons', April 1963.
  - C.E.22 'A Communication from Professor Mansfield Clark', April 1963.
- E.85 C.E.23 'Memorandum from Dr J T Edsall', May 1963.
  - C.E.24 'The Nomenclature and Classification of Oxygenases and Hydroxylases, by Professor O Hayaishi (Kyoto), June 1963.

- E.85 cont'd Letter from Webb to members of Standing Committee on nomenclature for the quarternary structure of an enzyme molecule, 11 July 1963.
- E.86 C.E.25 'Appendix E List of Enzymes' of draft revision of the Enzyme Commission Report, December 1963. In original folder.
- E.87 Draft letter to Nature on the nomenclature of multiple enzyme forms, 28 January 1964.
  - C.E.29 'Comments on the Enzyme Commission Report from a Sub-Committee of the Committee on Carbohydrate Nomen-clature of the Division of Carbohydrate Chemistry of the American Chemical Society', January 1964.
  - C.E.30 'Comments on C.E.25' from J T Edsall and E Racker, January 1964.
- E.88 C.E.31 'A few additional entries for C.E.25', January 1964.
  - C.E.32 'Comments on Certain Sections of C.E.25' from B A Stone and E C Slater, January 1964.
  - C.E.33 'Drafts of Suggested Addition to the Report of the Commission on Enzymes' by J T Edsall, January 1964.

E.89 C.E.36 'Some Comments on the Enzyme List' from A E Braunstein, W Kaufmann and G Siebert, February 1964.

Draft Minutes of the Second Meeting of the Committee, Rome, 11-14 February 1964.

Memorandum to members of the Committee enclosing letter from Dr Dillmann, 23 June 1964.

Memorandum to members of the Committee enclosing correspondence with Dr Edsall, July 1964.

E.90-E.96 Miscellaneous documents <u>re</u> enzyme nomenclature 1965-66, 1970-71, 1975-76.

7 folders.

E.97 Miscellaneous documents <u>re</u> enzyme nomenclature 1970-78.

1 bundle.

#### PHOTOELECTRIC SPECTROMETRY GROUP

1948

E.98 Agenda, list of members etc., for inaugural meeting. Cambridge 16 July 1948.

ROYAL SOCIETY

<u>c</u> 1943

E.99 Duplicated statements in support of Zoology candidates.

# SECTION F CORRESPONDENCE F.1 - F.73

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F.15 - F.73 REFERENCES AND RECOMMENDATIONS

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F.7	1968	F.14	nd

## Correspondence

### REFERENCES AND RECOMMENDATIONS

## General

F.15	1934,1937,1939	F.25	1965
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F.17	1950-53	F.27	1967 (1)
F.18	1954-55	F.28	1967 (2)
F.19	1956-57	F.29	1968-69
F.20	1958-59	F.30	1970
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F.50	1958,	1964-65	F.58	1968	(3)
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AW, S E	D.34,D.35
BACCARI, Vincenzo	D.34
BACH, Stefan Joseph	F.45 See also F.15,F.17
BACQ,	See B.63
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