

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on the correspondence and papers of

SIR HANS ADOLF KREBS

(1900-1981)

biochemist

deposited in

Sheffield University Library

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CONTEMPORARY SCIENTIFIC ARCHIVES CENTRE

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British National Committee for the History of Science, Medicine and Technology

Catalogue of the papers and correspondence of

SIR HANS ADOLF KREBS FRS

(1900 - 1981)

Compiled by:

Jeannine Alton and Peter Harper

VOLUME I

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GENERAL INTRODUCTION

PROVENANCE

This very extensive collection has been brought together from several sources and at various dates between July 1982 and June 1986.

The main sources, made available by Lady Krebs, were Krebs's home at Iffley and his Metabolic Research Laboratory at the Radcliffe Infirmary, Oxford. A little material was received from Dr. J.R. Krebs. Microfilm transcripts and photocopies of his own research material on the history of biochemistry were kindly provided by Professor F.L. Holmes.

OUTLINE OF THE CAREER OF SIR HANS KREBS

Krebs, a pioneer of research in intermediary metabolism and an internationally-respected figure in biochemistry, died in 1981, the same year that his autobiography Reminiscences and Reflections was published. A further account of his life and work by two long-term colleagues, H.L. Kornberg and D.H. Williamson, appeared in 1984 (Biographical Memoirs of Fellows of the Royal Society, 30, 349-387). These recent and accessible sources, which have been drawn upon throughout the compilation of this catalogue, make it unnecessary to give more than a brief rehearsal of the facts of Krebs's career.

He was born in 1900 to a Jewish family in Hildesheim, where his father was a doctor. After studies at the universities of Göttingen, Freiburg and Munich he began a career as a medical graduate in Berlin with P. Rona, until the decisive step of his appointment as Research Assistant to Otto Warburg (1926-30) who strongly influenced him. Subsequently he worked briefly at Altona, then accepted an offer from S. Thannhauser to join the Department of Medicine at Freiburg where he worked from April 1931 and where his first major work, the discovery of the ornithine cycle, was completed and met with immediate international recognition on its publication in 1932.

The following year saw the rise to power of the Nazi party, Krebs's suspension and dismissal from his post, and the start of a new career in England in the laboratory of Gowland Hopkins at Cambridge. In 1935 Krebs moved to Sheffield. Here his

second major research discovery, of the citric or tricarboxylic acid cycle, was made; here also was created, from 1945, the Medical Research Council Unit for Research in Cell Metabolism which remained in being as the focus of his research and the base of his 'team' until his retirement in 1967. During the Sheffield period two of the greatest honours of the scientific world were awarded him - Fellowship of the Royal Society in 1947 and the Nobel Prize for Physiology and Medicine (jointly with F. Lipmann) in 1953. In private life it was also the period of his marriage and the birth of his three children.

In 1954 he accepted the Whitley Chair of Biochemistry at Oxford and moved there, with his Unit and many of his 'team', until 1967, the year of his official 'retirement'. In his autobiography Krebs uses inverted commas for the chapter on this subject, since he continued to work, still funded by the Medical Research Council and by other research grants and still with some at least of his original Sheffield 'team', in the Metabolic Research Laboratory sited in the Radcliffe Infirmary, Oxford. His research continued to focus on physiological biochemistry and the regulation of biochemical processes, but he developed an increasing interest in the history and philosophy of science, its methodology and sociology, and in sociobiology and criminality. He was hard at work on all these topics, with a full programme planned ahead for publications and visits, when he died after a short illness.

DESCRIPTION OF THE COLLECTION

The material fully documents all aspects of Krebs's career and is presented in the order shown in the List of Contents. Additional explanatory notes accompany many of the Sections, sub-sections and individual entries in the body of the catalogue. The following paragraphs aim only to draw attention to matters of particular substance or interest, since the material considerably expands the published accounts of Krebs's life and thought.

Krebs was of a naturally retentive disposition. He refers to this frequently in the drafts of his autobiography, one of which, written in 1975 under the rubric 'Collection of junk' and now included in A.1104, runs:

"Throughout my life I had a tendency not to throw things that I might care to see again or to use again away. This applied to all correspondence that contained personal and technical matters, all photographs, many drafts of papers, scientific notebooks of course, books, reprints, souvenirs of memorable occasions, newspaper cuttings, extracts of other readings, sayings, quotations (which I stuck into scrap books).

I kept no diaries except on special occasions, such as during the war years and during some of my travels."

Furthermore, the international acclaim which greeted the publication of the ornithine cycle work in 1932 had made him aware of the value of his research. Thus when he left Germany he was able to bring to England 'sixteen wooden boxes and several suitcases' of apparatus and also his notebooks and personal documents; and when he assembled the 'scrap books' referred to above, he added notes and comments linking the selected material to the events of his own life.

Section A (Biographical and autobiographical) is rich in material of this kind. It contains several 'scrap books', a very substantial number of engagement books, diaries and 'jotters' and full documentation of the long gestation of the eventual autobiography Reminiscences and Reflections. The events of Krebs's career, notably his successive moves to Warburg's laboratory, to Cambridge, Sheffield and Oxford are represented together with many other offers or applications for appointments. Of the many honours he received, pride of place goes to the Nobel Prize and his own careful recording of the event, and the concomitant ceremonies and correspondence. In addition to Krebs's own life, there is extensive correspondence and papers from the 1930s and later relating to his family and friends and reflecting on the suffering of the Jews in Germany, their enforced emigration to Britain, Palestine and America, renewal of contacts after the Second World War and claims of restitution from the German state.

Section B (Sheffield) is relatively short, but documents the funding of his research by the Rockefeller Foundation, the setting-up of his Medical Research Council Unit and the problems of establishing and running a biochemistry department. It includes Krebs's 'Reflections' on the history of the Sheffield department on the occasion of his resignation. The most important research discovery of the Sheffield period (the citric acid cycle) is recorded in his research notebooks in Section D, but Section B preserves

correspondence and papers relating to the wartime research on nutrition and (very scantily) Krebs's ideas on carbon dioxide fixation.

Section C (Oxford) contains some not dissimilar material on the running (and in this case the major extension) of a university department and its sub-departments, Krebs's Medical Research Council Unit during and after his tenure of the Whitley Chair, and the funding of his research, including support from the Rockefeller Foundation. The Section is greatly extended and complicated, however, by Krebs's involvement in what he called 'debates on shortcomings'. These include his efforts to strengthen the development of science - and especially the biological sciences - in new or extended ways such as a 'Biology Centre', Zoology and Molecular Biophysics. Documents include not only Krebs's substantial unpublished account of the history of molecular biology at Oxford but photocopies of the relevant papers which the late J.W.S. Pringle (Linacre Professor of Zoology) made available to him. More general topics of 'University Reform' are salary and income structure, collegiate and non-collegiate appointments, the Robbins Committee, the National Incomes Commission and the Franks Commission; to all of these Krebs submitted memoranda for which drafts and background material survive. The records preserved here greatly expand Krebs's published writings on the subject at the time and later in his autobiography.

Section D (Research) is a very full record of the contributions to metabolic research made by Krebs and his collaborators over the long period 1926-81. It takes various forms - traditional laboratory notebooks, binders of dated and indexed notes, folders and boxes, and loose pages - and may include data and experimental results, records of discussions and information, reflections on work in hand or projected, drafts for publications, correspondence, extensive bibliographical references and background material usually annotated. The Section includes a photocopy of a laboratory notebook on the ornithine cycle research by Krebs's collaborator at Freiburg, K. Henseleit, and many pages of notes and results by long-term members of the Medical Research Council Unit, notably L.V. Eggleston, R. Hems and P. Lund.

Section E (Science-related interests) is one of the most interesting in the collection, since it gives substantial documentation of abiding interests of Krebs only briefly acknowledged in his own and other published accounts, and also contains much material for articles and lectures not listed in the extant bibliographies. The

topics dealt with in the Section are history and philosophy of science (including considerable material on Otto Warburg), sociology of research (policy-making, funding, team-work and leadership, motivation and recognition), sociobiology and criminality, and the scientist's duty to bring his gifts to bear on social problems. Another note by Krebs of 1977 and now included in E.324 headed 'Why I concern myself with "Sociological" problems' may usefully be quoted here:

"People have asked me why I do not stick to my last (as Apelles, the Roman painter, shouted to the cobbler who criticised not only the shoes on his painting but also other matters) considering that I know little about sociology and that I had enough problems on my hands in connection with my research.

I am not only a scientist, but also a citizen, and as a citizen I have good reason to be worried about what I call the diseases of society. I hold the view that every citizen ought to contribute to the best of his ability to matters of public life, especially on the basis of his own professional experiences and skills. Having been trained as a physician and as a scientist I fancy, rightly or wrongly, that I can look upon problems of society from a special point of view, that of the medical scientist. It is also my view which I know is shared by others, that the great majority of those who profess sociological subjects are appallingly ignorant of the biology of Homo sapiens."

Section F (Visits and conferences) covers a long period (1933-81, with ongoing plans up to 1983) though in varying detail and with some overlap with material in other Sections. Krebs was in great demand as speaker, chairman or honoured guest, and he as an active scientist placed high value on the contacts and exchanges with colleagues offered by symposia, visits to institutions and laboratories and the like. Of special interest is the record 1962-77 of his visits to the annual international conferences on advances in enzyme regulation organised at Indianapolis, where he presented papers on his current research for publication in Advances in Enzyme Regulation.

Section G (Societies and organisations) includes some seventy British and overseas organisations. While some entries are relatively trivial, others are substantial sequences covering a lengthy timespan and matters of consequence such as research policy and grant applications. These include the Agricultural Research Council, the Biochemical Society, especially Krebs's chairmanship of the Society's Sub-committee on the Report of the Working Group on Molecular Biology, the Royal Society and the Science Research Council. There is also some material on organisations concerned with refugee scientists and with sociological matters.

Section H (Publications, lectures, broadcasts) brings together notes, drafts, correspondence and other related material for published and unpublished work 1927-81; it includes some book-reviews and some radio and television work. There is also an extensive sequence of correspondence with editors and publishers which testifies both to the many requests Krebs received to write or lecture which he was not able to accept and also to his long-term editorial commitments to two journals, Biochimica et Biophysica Acta and FEBS Letters.

Section J (Correspondence), though essentially confined to professional exchanges with colleagues and collaborators (personal correspondence being in Section A), is very extensive and diverse. It includes substantial exchanges with life-long friends such as H.K.F. Blaschko, D. Nachmansohn and F. Lipmann, and documents the careers of many younger scientists who spent some of their research years with Krebs and maintained contact with him as their careers developed. This material thus supplements and confirms the attention paid by Krebs in many of his writings to the concept of 'filiation' or 'scientific genealogy' in fostering scientific excellence, and his persuasion that his own Unit had been a step in such filiation.

The value placed on Krebs's judgment is shown by the very large number of requests for advice and references, which have been placed separately in Section K, subject to restricted access.

Section L, the last of the collection, is of non-print material and includes many photographs of Krebs, his family, colleagues and laboratories, sound-recordings and videotapes of lectures given by him. Of interest are the microfilms of transcripts of conversations between Krebs and the historian F.L. Holmes.

BIBLIOGRAPHICAL NOTE

All references in the catalogue are to the Bibliography of 396 items which was published on microfiche to accompany the Royal Society Memoir, and to a Supplementary Bibliography of 11 items taken from the list of publications by members of the Metabolic Research Laboratory, Oxford, 1980-83. These bibliographies are listed, with permission, in the present catalogue.

This represents the latest information available on Krebs's published works. It supersedes the list of 356 items which Krebs published in his autobiography and the selection of only 121 items printed after the text of the Royal Society Memoir.

The manuscript collection contains considerable additional material relating to publications or to the intention to publish. This may range from a fully-prepared draft with references and figures ready for despatch to a journal to a reference in editorial correspondence. It applies especially, though not exclusively, to writings on social problems which were such a feature of Krebs's later years, but also includes such important scientific contributions as his Jayne Lectures, not to mention book-reviews and abstracts omitted from the canon. A separate list of catalogue entries for such material has been compiled and appears on pp. 671-72.

CONSPECTUS

This aims to relate Krebs's publications as defined above to their principal sources in the manuscripts. Only the more extended references, to research, publications and reception of the work, ensuing correspondence and the like, are given. Passing allusions in correspondence or requests for reprints are omitted.

ACKNOWLEDGEMENTS

The assembling and cataloguing of the collection have drawn on the time and goodwill of many. Particular thanks are due to:

Lady Krebs, for making the material available, for collecting family letters and documents from several sources, and for her many visits to provide information and encouragement over a long period;

Professor F.L. Holmes, for much invaluable information and advice, for his generosity in adding to the collection microfilm transcripts of his conversations with Krebs, microfilm copies of Krebs's laboratory notebooks, and the photocopy of a notebook of K. Henseleit, and for continuing visits and support;

Dr. D.H. Williamson and Mr. R. Hems for help in dealing with the research material, with special gratitude to Reg Hems for many visits of patient explanation and advice, for checking Section D and for making available a copy of his memorial address for Krebs;

Mr. C.K. Balmforth, Mr. M.S-M. Hannon and Mr. W.J. Hitchens of Sheffield University Library for mutual visits, help and encouragement;

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Jeannine Alton

Peter Harper

Oxford 1986.

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A.1063-A.1083

SHORTER AUTOBIOGRAPHICAL WRITINGS

A.1084-A.1278

Reminiscences and Reflections (Bibliog. 391).

With an introductory note

A.1279, A.1280

PRESS-CUTTINGS

Biographical and autobiographical

A.1-A.7 OBITUARIES

- A.1 Memoir by H.L. Kornberg and D.H. Williamson (Bibliographical Memoirs of Fellows of the Royal Society, 30, 1984).
- A.2 The Times (3 photocopies); Daily Telegraph; Oxford Times.
- A.3 Frankfurter Allgemeine Zeitung (2 photocopies); Naturwissenschaftliche Rundschau; memoir for Orden Pour Le Mérite, by A. Butenandt (Reden und Gedenkworte, 19, 1983).
- A.4 AJR Information (publication of the Association of Jewish Refugees in Great Britain).
- A.5 British Medical Journal (H. Blaschko); The Lancet (H.L. Kornberg).
- A.6 Journal of General Microbiology (J.R. Quayle).
- A.7 American Philosophical Society Yearbook (F.L. Holmes).
15pp. typescript draft and covering letter to Lady Krebs.

A.8-A.22 ARTICLES AND INTERVIEWS

See also A.911, A.923, A.1072, H.404, H.405, H.408.

- A.8 'Biographical Material', July 1953.
6pp. typescript draft.

'His achievements in the study of metabolism', July 1953.
6pp. typescript draft.

Biographical and autobiographical

- A.9 'Biography'
2pp. photocopy with ms. note by Krebs 'From Nobel Lectures in Physiology or Medicine 1942-1962'.

'With Camera and Pen'
Press-cutting of Oxford Times article, 15 October 1965.
- A.10 F. Dickens's 'Chairman's Opening Remarks' at symposium held to mark Krebs's retirement from his Oxford chair, 1967.

'Personal View' by W.M. Keynes, British Medical Journal, 1968.

Dedicatory preface by O.H. Warburg in Essays in Cell Metabolism presented to Krebs on his seventieth birthday, 1970.
- A.11 'Wir sprachen mit Sir Hans A. Krebs', Therapeutische Berichte, 1970.
Correspondence, 1969-70; copy of published interview.
- A.12 'Medicine's Living History'
Interview with Krebs in Medical World News, 1974.
- A.13 Dedicatory preface by S. Grisolia, R. Báguena and F. Mayor for The Urea Cycle, 1976.

'Three things I'd do if I were President', PHP, 1976.
- A.14 'Le portrait du mois', Médecine et Hygiène, May 1977.
Article and drawing.
- A.15 American College of Physicians Convocation Program, 1978, with biographical note on the occasion of honour for Krebs.

'Why Krebs is still in circulation', General Practitioner, September 1979.
Brief correspondence, draft and published article.

Biographical and autobiographical

- A.16 'Tribute to Sir Hans Krebs' by D.H. Williamson, Biochemical Society Transactions, 1980.
- 'Sir Hans Krebs: Eightieth Birthday Congratulations' by H.L. Kornberg, Biochemical Society Bulletin, 1980 (2 copies).
- 'Hans Krebs: Nineteen Nineteen and after', by H. Blaschko, FEBS Letters, 1980.
- A.17 'Hans Krebs and the Discovery of the Ornithine Cycle', by F.L. Holmes, Federation Proceedings (Federation of American Societies for Experimental Biology), 1980.
- Reprint sent by Holmes to Krebs, with the author's ms. dedication.
- A.18 'Krebs cycle takes him back to challenge of learning'
- Interview for The Medical Post, June 1981.
- A.19 'Der Oxforder Professor Sir Hans A. Krebs: Forscher-Kulturphilosoph-Humanist'
- 32pp. typescript draft by E. Szirmai, n.d.
- Szirmai published a biographical account of Krebs in Biographie der Erinnerungen, 1981. See J.707-J.709.
- A.20 Krebs's entry in McGraw-Hill Modern Scientists and Engineers, n.d.
- Entry for 'Zitronensäure' from Brockhaus Enzyklopädie, n.d.
- Krebs's entry in an unidentified German encyclopaedia, n.d.
- A.21, A.22 Requests for personal and biographical information.
- 2 folders.
- A.23-A.26 BIBLIOGRAPHIES
- Miscellaneous lists of publications. A.26 is list of publications, Metabolic Research Laboratory, Oxford, 1980-83, the basis of the Supplementary Bibliography.

Biographical and autobiographical

A.27-A.40 SCRAPBOOKS

This general description conveniently brings together material of biographical or general interest assembled by Krebs and either pasted onto loose leaves and kept in binders or specially bound volumes, or pasted straight into commercially available scrapbooks.

A.27-A.31 are four large blue binders containing loose leaves assembled by Krebs (some already detached) on which he had pasted original documents and a few photocopies, together with his own typescript notes on their significance and, in a few cases, translations from the German. The first two binders, entitled 'Documents from the Life of a Scientist' I and II, contain some of the most important surviving documents relating to Krebs's career and honours and were probably intended to serve instead of an autobiography. In his preface to the autobiography published in 1981 Krebs noted that some time after 1960 he had the idea of putting together for publication documents from his files - 'those that had been important in influencing the course of my professional life and those that reflected more personal aspects, such as letters, announcements, and published articles'. When Krebs showed some of the assembled material to the Oxford University Press, however, they proposed a considerable expansion to include a fuller account of his personal life. Krebs had reservations about this proposal, thinking 'that the documents would speak for themselves, illustrating how the social and political history of the times was reflected in the career of an individual scientist. Among other things they showed how the recognition of research expresses itself, how the rise of Nazism temporarily upset my career, and how British scientists and the Rockefeller Foundation came to my rescue; and how, later on, I became involved in wider issues'. Although Krebs agreed to write a full-scale autobiography these scrapbooks remain not merely assemblages of biographical documents of the greatest significance but also evidence of his original intention for a published record of his life as a scientist. The remaining two binders of this format are untitled and contain further material (mostly certificates) re Krebs's very numerous honours and awards.

A.31 is also of great biographical interest and contains extensive material on the award of the Nobel Prize. It was begun in 1952 when Krebs was informed by a Swedish journalist that he was a candidate for the prize - a year early as it turned out (see Rem. & Refl., p.166). A.32 contains material relating to visits and conferences covering a period of over ten years and A.33-A.37 contain material relating to individual visits from the extended tour of American research centres in 1949 (A.33) to a 1978 visit to North Carolina

(A.37). A.38-A.40 are scrapbook assemblages of miscellaneous sayings or quotations of interest to Krebs or newspaper-cuttings relating to his research, honours and awards.

References to the relevant passages in the published autobiography, and to published papers, are given, and the correspondence is indexed.

A.27 'Documents from the Life of a Scientist I' 1925-54

Documents re Krebs's early career including work in Warburg's laboratory and at Freiburg, the termination of Krebs's appointment at Freiburg and the move to Cambridge and subsequent appointments at Sheffield.

Documents include:

Certificate of Krebs's doctor of medicine degree, 1925.

Krebs's application for a grant of equipment, with corrections by Warburg, 1930.

Enquiry about Krebs's interest in a post in the Department of Medicine, Freiburg, 1930.

Admission as a teacher in internal medicine in the Medical Faculty, Freiburg, 1932.

'Encouragements': invitations to lecture from Otto Meyerhof and Max Planck, F.G. Hopkins's reference to Krebs's work in his Royal Society Presidential Address and C. Neuberg's recommendation of Krebs for professorial appointment at Münster, 1932-33.

Notification of compulsory leave of absence from Dean of Medical Faculty, Freiburg, April 1933 (Rem. & Refl., p.61).

Notification of termination of University appointment, April 1933 (Rem. & Refl., p.62).

Correspondence with W. Herkel (in Cambridge) re Krebs's situation in Germany and the possibility of something being done for him in Cambridge, April 1933 (Rem. & Refl., p.64).

Photocopy of letter from A. Szent-Györgi which prompted Krebs to write to F.G. Hopkins, April 1933 (Rem. & Refl., p.65). The original is at A.420.

Continued

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A.27 (Cont'd.)

Correspondence with F.G. Hopkins re possible move to Cambridge, April 1933 (Rem. & Refl., pp.65-66). See also A.420, A.421.

Offers of help from O. Warburg and F. Knoop, April 1933 (Rem. & Refl., pp.66-67).

Original and translation of students' manifesto 'Wider den undeutschen Geist', (Rem. & Refl., pp.68-69).

Letter from Krebs to Rockefeller Foundation, 13 May 1933 (Rem. & Refl., p.67).

Letter from H. Druckey previously accepted by Krebs as a research worker in his laboratory, 24 May 1933 (Rem. & Refl., pp.72-73).

Correspondence with F.G. Hopkins re move to Cambridge, June 1933.

List of scientific equipment brought by Krebs from Germany to England.

Letter from R.A. Peters about a post at Oxford, 27 June 1933 (Rem. & Refl., pp.85-86).

Warning of final notice of termination of appointment at Freiburg signed by the Rector, Martin Heidegger, 15 July 1933.

Letter of appointment as demonstrator at Cambridge, 6 July 1934.

Letter of appointment as lecturer in Pharmacology at Sheffield, 21 October 1935.

Correspondence with J.C. Aub re post at Harvard Medical School, 1933-34. See also A.424.

Photocopies of Krebs's application and confidential letters from referees (F.G. Hopkins and D. Keilin) for the Sheffield post.

Letter from F.G. Hopkins offering a position in his laboratory, 12 January 1936, with Krebs's draft reply (Rem. & Refl., p.96).

Copy of Krebs's published paper (with W.A. Johnson), 'The role of citric acid in intermediate metabolism in animal tissues' (Bibliog. 62).

Change of appointment at Sheffield from Lecturer in Pharmacology to Lecturer in Biochemistry, 17 February 1938.

Letters from German Consul at Liverpool, May, June 1938 (Rem. & Refl., pp.102-103).

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An APPEAL for ... BRITONS. Anti-refugee leaflet circulated at Sheffield, 1938 (Rem. & Refl., p.101).

'Original copy' of paper containing the first announcement of the citric acid cycle, 10 June 1937. This is the paper submitted to Nature for publication as a Letter and returned by the Editor because 'he had already sufficient letters'. In his own typescript introduction Krebs notes that it was never published: 'Instead a full paper was submitted to Enzymologia on June 27th and published within three months. (Bibliog. 62.) This work was awarded a joint Nobel Prize in 1953'. Krebs indicates in his introductory note that the 'next page' in the binder should be the letter from the Editor of Nature. This page is, however, missing from the binder. (Rem. & Refl., pp.98-99.)

Statement on Krebs's scientific work compiled by him at the invitation of A.C. Chibnall, with reference to his candidature for the Royal Society, 20 September 1945.

Offer of a Chair of Biochemistry at the Chester Beatty Research Institute, 3 June 1947.

Correspondence with the Editors of Nature, October, November 1953, in which Krebs refers to his 'experience of 1937 and ... the difficulty (sometimes) of assessing the merits of a paper'.

A.28

'Documents from the Life of a Scientist II' 1946-66, 1973

Documents re Krebs's career and honours at Sheffield and Oxford, including:

Printed copy of Krebs's inaugural lecture as Professor of Biochemistry, Sheffield, 8 May 1946 (Bibliog. 111).

Correspondence re enquiry from the University of Basel about a Chair of Physiological Chemistry, October 1946.

Papers re reestablishing contacts after the war with former German colleague (K. Henseleit), February 1947.

Election to Fellowship of the Royal Society, March 1947.

Election as 'Socio Straniero, Accademia Nazionale dei Lincei', 7 July 1951.

Memorandum on the Department of Biochemistry, Sheffield, submitted to the University authorities on the occasion of the offer of a Professorship at Harvard, November 1951. Krebs notes that 'in consequence of this memorandum the University decided to provide additional space in the Scala Cinema. This made the institution of an honours school possible'.

Continued

Biographical and autobiographical

- A.28 (Cont'd.) American Public Health Association's Lasker Award, 12 November 1953.
- Photocopy of letter from the Dean of the Medical Faculty, University of Freiburg, 21 November 1953, enclosing testimony written by E. Rehn in December 1932. (Rem. & Refl., pp.170-171). For originals see A.31.
- 'The citric acid cycle'. Nobel Lecture, Stockholm, 11 December 1953 (Bibliog. 173). Printed copy.
- Copy (reduced size) of Nobel Diploma, 10 December 1953.
- Krebs's speech at dinner given in his honour by the Friends of the Hebrew University of Jerusalem, 27 January 1954.
- Honorary Degree, University of Chicago, 19 March 1954.
- Offer of Whitley Professorship of Biochemistry, Oxford, 8 May 1954.
- Memorandum on the future of the Biochemistry Department at Sheffield, written at the invitation of the Vice-Chancellor, 4 August 1954.
- Royal Medal, 30 November 1954.
- Address of welcome by the Dean of the Faculty of Medicine, University of Freiburg, 5 July 1955; typescript copy of Krebs's introduction to his Aschoff Memorial Lecture and reprint of lecture (Bibliog. 179).
- Member of Deutsche Akademie der Naturforscher Leopoldina, 7 June 1956.
- Honorary Doctorate, University of Paris, 29 October 1956.
- Foreign Honorary Member, American Academy of Arts and Sciences, 8 May 1957.
- Knighthood, 1958.
- Admiral in the Texas Navy, 6 October 1958.
- Honorary Doctorate, University of Sheffield, 12 May 1959. See also A.29.
- Sagamore of the Wabash, 13 November 1966.
- Letter from W.A. Johnson, 6 June 1978. (Krebs's collaborator on Enzymologia paper, Bibliog. 62.).

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- A.29 Untitled 1959-65
- Documents re various honours and awards, mainly certificates, but including speeches of public orators presenting Krebs for honorary degrees at Sheffield and London Universities (1959) and draft of Krebs's address on the occasion of the conferment of an honorary degree by the Hebrew University of Jerusalem (1960).
- A.30 Untitled 1955, 1964-78
- Documents re various honours and awards, mainly certificates, with speeches of presentation and a little correspondence; also includes H. Theorell's reply to Krebs's congratulations on the occasion of his Nobel Prize (1955).
- A.31
- Large format hardback scrapbook consisting of miscellaneous gatherings assembled by Krebs and bound in book form. This is apparently the scrapbook referred to by Krebs in his autobiography (Rem. & Refl., p.166).
- Principally correspondence, photographs and newspaper-cuttings re the rumoured award of a Nobel Prize in 1952 and the actual award in 1953, with Krebs's typescript diary of events, 19-24 October 1952 and 12-25 October 1953.
- Documents include:
- Letter from F. Cedrangolo informing Krebs that he had nominated him for a Nobel Prize, January 1952.
- Letters of congratulation (1952).
- Photographs of Krebs and family (1952).
- Letter from H. Theorell requesting photograph of Krebs for his Institute, 8 October 1953.
- Letter from Rector of the Royal Caroline Institute confirming his telegram re award of Nobel Prize, 23 October 1953. The telegram itself is not in the scrapbook.
- Material re travel to Stockholm and award ceremonies.
- Speech by F. Davies, Professor of Anatomy, Sheffield, at dinner given in Krebs's honour by the University.
- Address by R.N. Salaman at a dinner in Krebs's honour given by the Friends of the Hebrew University in Sheffield.

Continued

- A.31 (Cont'd.) Draft of Krebs's speech at a dinner in his honour given by the Friends of the Hebrew University of Jerusalem at the Savoy Hotel, London.
- Letter from F. Lipmann re joint 'Smoker' talk with Krebs at the Atlantic City Federation of American Biological Chemists meeting, 1954.
- Newspaper-cuttings re Krebs's election to the Whitley Professorship of Biochemistry, Rockefeller grant for Krebs's research and the award of a Royal Medal (1954).
- A.32 Large format hardback scrapbook similar to A.31 above.
- Principally correspondence, newspaper-cuttings and photographs re visits and conferences, 1957-70, which should be consulted in conjunction with similar material in Section F.
- The visits include J.R. Geigy A.G. bicentenary celebrations in Basel (1958), Lindau meetings of Nobel Prize winners, and Indianapolis Enzyme Regulation Symposia.
- A.33 Blue large format hardback scrapbook containing material re 1949 visit to USA, including schedule of visit but principally miscellaneous memorabilia. Many loose items. See also F.8-F.16.
- A.34 Small format scrapbook with record of journey to Oslo, 17-26 May 1952, including correspondence re arrangements and Krebs's ms. diary of events. Some loose items. See also F.20.
- A.35 Blue quarto-size binder containing gatherings of items assembled by Krebs re his visit to USA in 1954. See also F.23-F.46.
- Miscellaneous memorabilia including invitations, receipts and (loose) two photographs taken on board RMS Queen Mary.
- A.36 Large format softcover scrapbook, with record of Krebs's visit to Houston, Mexico, Berkeley and Philadelphia, December 1961. See also F.99, F.100.
- Correspondence re arrangements; invitations declined; lecture programme and poster; newspaper-cuttings; miscellaneous memorabilia. Many loose items.
- A.37 Quarto-size ringback loose-leaf binder containing a collection of documents in plastic covers re Krebs's visit to Charlotte North Carolina, January 1978. Some loose items. See also F.314.

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- A.38 Blue large format hardcover scrapbook containing miscellaneous press-cuttings of interest to Krebs, c.1945-61. The scrapbook is paginated 1-54 and has (on loose pages) a 2pp. typescript index.
- A.39 Red large format hardcover scrapbook containing miscellaneous sayings and quotations of interest to Krebs (typescript and printed), and press-cuttings, many of a biographical nature. Some loose items. The scrapbook is paginated 1-108 and has (on loose pages) a 5pp. typescript index. Of particular interest are the press-cuttings re the wartime Vitamin C experiment and a photograph of the volunteers.
- A.40 Large format softcover scrapbook containing miscellaneous sayings and quotations of interest to Krebs (typescript and printed). Some loose items.

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A.41-A.399 DIARIES AND JOTTERS

The material is presented as follows:

A.41-A.79 DESK DIARIES 1943-81

A.80-A.106 POCKET DIARIES 1942, 1954-81

A.107-A.114 PERSONAL DIARIES 1941-46, 1946-48, 1957-62

A.115-A.399 JOTTERS 1949-81

Krebs was a compulsive recorder of information, but by no means a systematic one. The various sequences presented here are distinguished as much by format as by content. Certain broad distinctions may nevertheless be drawn.

The Desk Diaries (A.41-A.79) are hard-backed engagement books of fairly standard octavo format. The entries are on the whole summary lists of appointments, meetings, visits, things to do at home or work, shopping lists, birthdays to remember, preparations for journeys, often crossed through as the tasks were performed. Diaries for the later years include more references to scientific work in hand, experiments to undertake, books and articles to be read, instructions for laboratory colleagues, notes of meetings and discussions, and a little more personal material; in his last years, for example, Krebs kept notes at the rear of diaries on his health and its treatment.

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The Pocket Diaries (A.80-A.106) with the exception of A.80 for 1942, are all Oxford University Diaries, a very small format until 1980. They record appointments and some general notes but perforce in relatively compressed form.

The Personal Diaries (A.107-A.114) are few in number. The first of this type (A.107, A.108) are exercise books used for diary entries extending over several years, and with some holiday notes by Margaret Krebs. The later diaries (A.109-A.114) are an octave sequence, some in handsome limp leather, all with the initials 'J.L.F.' stamped on the cover. There is also a change of content, or rather of proportion. Personal engagements and memoranda become fewer; scientific information, ideas for experiments, etc. continue; but most of the pages are filled with drafts for speeches (many on the Oxford controversies of the period), letters, shorter writings, or reflections arising from conversations or reading. Most, not all, of these are dated though they do not correspond to the calendar dates, and there are some blank pages unrelated to the holiday or travel periods which occur in the equivalent desk and engagement diaries.

The Jotters (A.115-A.399) are in many respects a development of the personal diaries, except in format. They are small soft-backed books which Lady Krebs describes as 'bought at Woolworths' though some obviously originate abroad. Krebs seems to have begun this type of journal in 1949 and continued to the end of his life. They were in essence travel diaries in which he would record in careful detail his journeys, meetings, discussions, purchases, reflections on general topics, research ideas, etc. The small format and easy replacement suited Krebs's temperament perfectly, but at the same time create problems of dating and attribution. The original intention was to keep a jotter for each journey; sometimes, however, a year's travel or, more frequently, a complicated lecture and conference trip to several centres can be found in one book. In later years, Krebs's travel became so extensive that a considerable number of jotters would be used in a single year and Lady Krebs confirms that he would have five or six in use at the same time. Usually there is a starting date at the front or on the cover and the contents can be assumed to extend forwards but not retrospectively from it. Sometimes the pages are numbered; occasionally there is an index; the middle or rear pages are often used for general reflections while a more or less chronological sequence of events is recorded at the front. Many of the later jotters include autobiographical or self-analytical passages. Some of the more extended writings on all

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topics, often become the basis of the short typescript notes found throughout the collection. Examples of pages torn out of jotters for this purpose can be found at A.134, A.249, A.377 and many other jotters can be seen to have been mutilated in this way.

All these categories of notebook, which are all autograph manuscript, may include loose pages, letters, notes, press-cuttings, etc. which are mentioned though not always itemised in the catalogue entries. The variety of the material, which often overlaps disconcertingly with similar documentation elsewhere in the collection, makes this section an important supplementary source for Krebs's personal and scientific development.

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A.41-A.79 DESK DIARIES 1943-81

- A.41 1943
Includes notes of meetings pasted in, and, as loose pages, press-cuttings, correspondence, note of diet administered to volunteers November 9th, letter of news of family and Jewish friends.
- A.42 1944
Includes items pasted in, and as loose pages.
- A.43 1945
Includes a few loose intercalated pages.
- A.44 1946
- A.45 1947
- A.46 1948
- A.47 1949
Includes a few intercalated pages, and some items as loose pages (at rear of book).
- A.48 1950
Includes a few loose intercalated pages.
- A.49 1951
At rear of book are Krebs's notes on negotiations with Sheffield over his possible move to Harvard (Rem. & Refl., pp.180-185). See A.470-A.476.
- A.50 1952
Includes a few intercalated pages, and items pasted in.
- A.51 1953
Includes a few intercalated pages.
- A.52 1954

Note: the diaries for 1953 and 1954 are of different format from those preceding and following them.
- A.53 1955
- A.54 1956
Includes a few intercalated pages, and one letter.

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|------|------|---|
| A.55 | 1957 | Some health notes at rear of book. |
| A.56 | 1958 | Some health notes at rear of book. |
| A.57 | 1959 | Includes a few loose pages, and items pasted in. |
| A.58 | 1960 | Includes a few loose press-cuttings. |
| A.59 | 1961 | |
| A.60 | 1962 | |
| A.61 | 1963 | Includes a few intercalated items. |
| A.62 | 1964 | Includes a few loose press-cuttings; some health notes at rear of book. |
| A.63 | 1965 | Includes Krebs's notes of negotiations about his post-retirement laboratory space, and some health notes at rear of book. |
| A.64 | 1966 | Includes a few press-cuttings, pasted in and as loose items. |
| A.65 | 1967 | Includes a few items pasted in and as loose pages. |
| A.66 | 1968 | Includes a few items pasted in and as loose pages. |
| A.67 | 1969 | Includes a few items pasted in and as loose pages; some health notes at rear of book. |
| A.68 | 1970 | Some health notes at rear of book. |
| A.69 | 1971 | Includes several items pasted in or as loose pages, and health notes at rear of book. |

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|------|------|---|
| A.70 | 1972 | Includes a few items pasted in or as loose pages, and health notes at rear of book. |
| A.71 | 1973 | Includes several intercalated items, and loose pages at front and rear of book; health notes at rear of book. |
| A.72 | 1974 | Includes several items pasted in or as intercalated pages; health notes at rear of book. |
| A.73 | 1975 | Includes several items pasted in. |
| A.74 | 1976 | Includes a few items pasted in or as intercalated pages; brief health notes at rear of book. |
| A.75 | 1977 | Includes a few items pasted in or as loose pages; brief health notes at rear of book. |
| A.76 | 1978 | Includes several items pasted in; health notes at rear of book. |
| A.77 | 1979 | Includes several items pasted in, and a few loose pages; health notes at rear of book. |
| A.78 | 1980 | Includes several items pasted in and some loose pages intercalated and at front and rear; health notes at rear of book. |
| A.79 | 1981 | Includes several items pasted in and some loose pages at rear. Extensive health notes. |

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A.80-A.106 POCKET DIARIES 1942, 1954-81

A.80 1942

A.81	1954-55	A.84	1957-58
A.82	1955-56	A.85	1958-59
A.83	1956-57	A.86	1959-60
A.87	1960-61	A.92	1965-66
A.88	1961-62	A.93	1967
A.89	1962-63	A.94	1967-68
A.90	1963-64	A.95	1968-69
A.91	1964-65	A.96	1969-70
N.B.	Diary for 1970-71 is missing		
A.97	1971-72	A.102	1976-77
A.98	1972-73	A.103	1977-78
A.99	1973-74	A.104	1978-79
A.100	1974-75	A.105	1979-80
A.101	1975-76	A.106	1980-81

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A.107-A.114 PERSONAL DIARIES 1941-46, 1946-48, 1957-62

A.107

Exercise-book used as diary, with many press-cuttings pasted in and others left as loose items; letters, postcards, notices of meetings also pasted in or inserted in the book.

The entries run 23 December 1940-23 May 1946 and include domestic and scientific material, and also many press-cuttings on the progress of the war with comments and reflections by Krebs. There are a few entries by Margaret Krebs about family holidays, children's progress, etc. Some of the pasted-in material is similar to that sometimes chosen for the scrapbooks (qqv.) or used by Krebs in his autobiography. It includes:

11 March 1941 Acknowledgement of Krebs's letter to Churchill 'on the importance of home production'

6 May 1941 Meeting with J.G. Crowther about yeast production from bracken (Rem. & Refl., p.123)

2 February 1942 Letter from T. Davidson with news of relatives in Germany

24 March 1945 Notice of conferral on Krebs of title of professor of biochemistry at Sheffield

18 May 1945 Extract from letter from Canon A.C. Austen about his meeting with Krebs's family during the last days of the war (quoted in Rem. & Refl., pp.147-48 when the date of the letter is given as 16 May). Also enclosed is a photocopy of a note from Maria and Gisela Krebs (date not legible) describing the meeting.

A.108

Exercise-book used as diary, with press-cuttings pasted in and others left as loose items; letters, postcards, various personal and other items also inserted at front and rear of book. The content is similar to A.107 but covers a shorter period and is less consistently maintained.

Entries run 7 June 1946-25 October 1948.

At front of book - miscellaneous family letters, including letters of recommendation (1946, 1947) for Maria Krebs to visit England.

At rear of book - press-cuttings.

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- A.109-A.114 Sequence of limp leather diaries all with initials 'J.L.F.' on cover.
- A.109 1957 Includes, at rear of book, 2pp. ms. notes on 'Use of power' and 'Service' dated November 1956.
- A.110 1958
- A.111 1959 With part index at rear.
- A.112 1960
- A.113 1961 With some loose pages, including note on 'Research Councils and University Research' dated 15 November, from D.D. Woods.
- A.114 1962

N.B. The initials 'J.L.F.' are those of Krebs's father-in-law, Joseph Leo Fieldhouse. 'HAK used up the unwanted diaries passed on by JLF!' (Information from Lady Krebs, May 1986.)

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A.115-A.399 JOTTERS 1949-81

These are too numerous, and their content too heterogeneous, to be described in detail (see the introductory note). Dates and places given by Krebs are quoted in inverted commas, and a little additional information is given where it is felt to be of special use or interest. Cross-references to Section F, Visits and Conferences, is likewise given only exceptionally, since they can be linked relatively easily from the dates. In many cases, the jotters fill out the information or attest to shorter journeys not documented elsewhere.

From the early 1970s almost all the jotters contain ideas, memoranda or narratives for Krebs's autobiography; in addition, from 1979 they all reflect his thoughts on evolution in preparation for the Dunham Lectures.

The presentation is chronological as far as this is ascertainable; undated jotters are at A.392-A.399.

- A.115 '1949 American Journey'. March-April. Paginated 1-128.
- A.116 '1949 USA Hildesheim'. This was Krebs's first visit to Germany after the Second World War (Rem. & Refl., pp.155-157).
- A.117 Notebook inscribed 'Material on fermentation chapters'. Several pages torn out. Some dated September 1951.
- A.118 'Teleology'. Some pages dated September 1951.
- A.119 'Norway' April 1952 (and several other journeys in Britain and abroad).
- A.119A 'Summer holiday 1952' (and other material, some dated November 1952).
- A.120 '1953 Heidelberg, Freiburg, Schweiz' (and several other journeys). Various dates June-October 1953. Cover also bears a note 'See last pages On Spending One's Time' (a 2pp. note headed 'Train Hook 21/6/53'). There is also a 'Draft New York', see A.121.

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- A.121 New York November 1953. See also A.122.
- A.122 'Stockholm 1953' (for Nobel Prize).
- A.123 Sheffield 1954. Includes preparations for journey to U.S.A.
- A.124 'U.S.A. 1954' (lacks cover). February.
- A.125 'U.S.A. 1954' February.
- A.126 'U.S.A. 1954'. Several pages torn out.
- A.127 U.S.A. 1954. Annual diary with entries from 8 March to 5 May.
- A.128 'USA 1954' Similar dates but with additional material.
- A.129 'Oxford Summer 1954. Exploratory visit May 18th 1954' (also later visits).
- A.130 'Visit to Oxford London 6/7 July 1954. Till September 1954'
- A.131 'Jobs at Oxford' Various dates October-November 1954.
- A.132 Similar material on Oxford laboratory and personnel, various dates October 1954-March 1955.
- A.133 'US 1954' October.
- A.134 Dec. 1954 and Jan. 1955. Loose pages torn from a jotter.
- A.135 'Sheffield 1955' March-April (and Oxford).
- A.136 'Freiburg' July 1955.
- A.137 'Warzburg' July 1955.
- A.138 'Holiday 1955 Brussels Congress Biochemistry' July-August 1955.
- A.139 November 1955, and some pages dated February, June 1956.
- A.140 Undated, found with 1955 notebooks, and same format. Many pages torn out.
- A.141 'Hamburg 1956' September. Also includes Brussels and Rome.
- A.142 'Hamburg-Rome trip'. Similar format and material to A.141.
- A.143 'Paris November 1956'
- A.144 'Summer Holiday 1957'

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- A.145 Nov. 1957. Many pages torn out.
- A.146 Dec. 1957 - April 1958, paginated 1-79 and some unnumbered pages; part index on p.1.
- A.147 'Holland March 1958'
- A.148 'Holiday 1958' (and some pages 1959)
- A.149 'USA 1958' New York, October, paginated 1-41 and some unnumbered pages.
- A.150 'Paris March 1959' on front cover. On rear cover 'Paris 1964 3-6 November', paginated 1-10.
- A.151 '1959 Ciba Symposium', May.
- A.152 'Ciba 1959' June (and November 1959); some pages torn out.
- A.153 June-July 1959. Switzerland, Hamburg, Paris.
- A.154 'USA Sept, Oct 1958 [pp.] 1-47.
Switzerland, Saar, Paris June-July 1959 [pp.] 48-90'.
- A.155 'Germany 1960'. An empty cover from which all pages have been removed.
- A.156 'USA 1960' February-March.
- A.157 'USA 1960' One page dated March.
- A.158 'USA 1960' April.
- A.159 'Israel 1960' March.
- A.160 'Israel 1960' March-April.
- A.161 May-June 1960.
- A.162 'Lindau 1960 & 1961
Freiburg 1961' (also Lindau 1963); some pages torn out.
- A.163 June, July 1960; some pages torn out.
- A.164 'August 1960 1' (visit to Germany); some loose items tucked in; includes 'Reflections on German National Character'.
- A.165 'August 1960 2' (as above).

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- A.166 'Berlin 1961' May.
- A.167 'Holiday 1961'. Many pages torn out.
- A.168 'Holidays 1961' Various dates January-July.
- A.169 'USA Mexico 3-19 Dec. 1961'. Paginated 5-113 and some un-numbered pages.
- A.170 'Trip to Israel March 1962'
- A.171 'Easter 1962 Concarneau. Whitsun 1962 Louvain Symposium'. Paginated 1-45 and some unnumbered pages. Some pages torn out.
- A.172 '1962' Various dates July, August 1962; paginated 13-96 with several pages torn out. Mainly drafts and ideas on university reform, science and creativity, etc. Part index on back cover.
- A.173 'Holiday 1962' Various dates July, August; paginated 2-38, and also includes Munich August 1963.
- A.174 'Trip to Harvard, Indianapolis September 1962'
- A.175 'Diary Harvard, Indianapolis September 1962'
- A.176 '1962 Scandinavia'. Many pages torn out.
- A.177 'Scandinavian Trip December 1962'
- A.178 'Science Only Scandinavia December 1962' Paginated 1-25 and some unnumbered pages.
- A.179 'US 1963 March. Dartmouth Kansas City'
- A.180 'US 1963 March'. A few pages torn out.
- A.181 'US 1963'. March; many pages torn out.
- A.182 'Edinburgh May 1963 Poultry Research Centre' and other material; several pages torn out.
- A.183 'Summer 1963 Marseilles' July-August.
- A.184 'Indianapolis 1963' Many pages torn out.
- A.185 '1963 Indianapolis'. Diary September-October.
- A.186 'Indianapolis 1963' October.

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- A.187 'California February 1964 Deuel Conference. Diary'
- A.188 'California Feb. 1964'
- A.189 'Spain 1964' March.
- A.190 '1964' May, Honorary Degree at Leeds; a few pages torn out.
- A.191 'Notts 1964' Some pages dated July.
- A.192 'US 1964. Int. Biochem. Congress' July-August. Paginated 1-37 and some unnumbered pages.
- A.193 '1964 New York [July] - Wengen [August].' Paginated 1-81; index on inside front cover.
- A.194 'Wengen 1964' August. Paginated 1-80; index on inside front cover.
- A.195 'Notes 1964' November-December; mainly notes and drafts for Franks Commission; a few pages torn out.
- A.196 'Houston November 1964. Welch Foundation Symposium'. Diary, paginated 1-23; schedule of visit pasted in.
- A.197 '1965' General notes December 1964-January 1965, paginated 1-53 and some unnumbered pages; some pages torn out. On pp.32-33 is 'My travel record' 1961-64 and a note of trips planned for 1965.
- A.198 General notes, some dated March 1965; many pages torn out.
- A.199 '1965 Vienna' European Biochemical Congress, 20-24 April; note of travel plans for 1965 on inside back cover.
- A.200 'USA' Exercise-book, some pages dated May 1965; many pages torn out.
- A.201 '1965 USA' May-June.
- A.202 'USA 1965' May-June.
- A.203 'Germany 1965' June-July.
- A.204 'Italy 1965' September.
- A.205 '1965 Portugal Indianapolis' September-October.
- A.206 '1965 Indianapolis' Paginated 1-93; some pages torn out.
- A.207 '1966 Israel Warsaw' March-April.

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- A.208 'Spring 1966 Jerusalem Warsaw'. Paginated 1-88, index on p.1; several pages torn out.
- A.209 'Lindau Hildesheim 1966' June-July.
- A.210 'Indianapolis Bordeaux 1966. Indianapolis 1967 1968' Paginated 1-159, with index on inside front cover (continued on pp.31-32) and travel schedule for 1966 on inside back cover. Visits to Indianapolis and Bordeaux are October 1966. Second visit to Indianapolis is September-October 1967 (p.47 et seq.) and third visit is September-October 1968 (p.59 et seq.). Includes some material about the Oxford Chair.
- A.211 'USA November 1966 Yale Galveston'. November-December.
- A.212 'USA November 1966 Mexico' Paginated 1-73 and some unnumbered pages.
- A.213 '1966' London, December. Paginated 1-49 and some unnumbered pages.
- A.214 General notes, some dated January, March 1967.
- A.215 'Bari March 1967 May 1968'
- A.216 'Oestrich Symposium 27-29 April 1967'
- A.217 'Oslo 1967 'FEBS' July.
- A.218 General notes, some dated September, October 1967. Travel schedule for 1967 on inside back cover.
- A.219 'Indianapolis' October 1967.
- A.220 'Indianapolis 1967'
- A.221 'Stockholm 1967' November.
- A.222 'Helsinki Stockholm 1967' Nov. Scientific drafts and notes at front, paginated 1-51; diary at rear, paginated 1-17.
- A.223 '1967 Oxford' General notes.
- A.224 'Notes'. Undated but includes notes for speeches related to retirement from Oxford.
- A.225 '1968'; inside cover inscribed 'December 1967'; general notes December 1967-January 1968.

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- A.226 'USA January 1968 Boston Philadelphia'
- A.227 'USA January 1968 Boston Philadelphia'
- A.228 'USA March 1968' Diary and notes February-March.
- A.229 '1968 California USA & Notes on General Matters' Many pages torn out. See A.230.
- A.230 Pages torn from notebook, headed 'Flight Dallas - London 17.3.68'
- A.231 '1968' General notes and drafts, May.
- A.232 'Tutzing Feldafing 1968' June.
- A.233 '1968 Feldafing' June.
- A.234 'FEBS Prague July 1968'
- A.235 'Salisbury Cove. Washington 1968' Exercise-book of notes and drafts August, referring to visit to Mount Desert Island Biological Laboratory, Maine, and to XXIV International Congress of Physiological Sciences, Washington D.C.
- A.236 'US 1968' August.
- A.237 'Indianapolis 1968' September-October; paginated 1-29 and some un-numbered pages.
- A.238 'Visit to US October 1968 Indianapolis' September-October.
- A.239 'Philadelphia 1968' October.
- A.240 '1968' General notes and drafts.
- A.241 '1969' Freiburg 5-9 January.
- A.242 'MGH [Massachusetts General Hospital] Boston Jan. 1969'
- A.243 'Boston Miami 1969 January'
- A.244 'Israel 1969' March-April.
- A.245 'Madrid 1969' (FEBS Congress) April.
- A.246 'Berlin 1969' May.
- A.247 'Berlin', May; and later journey to Europe June-July.

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- A.248 'June 1969 Lindau Notes' Many pages torn out, see A.249.
- A.249 Notes on motivation of research, dated 30 June 1969 on pages torn from notebook, similar format to A.248.
- A.250 'Stockholm Konstanz 1969' September.
- A.251 'Stockholm 1969' September (and August).
- A.252 'Konstanz 1969' September.
- A.253 'USA Sept./October 1969'
- A.254 'Visit to Indianapolis & Philadelphia 1969' General notes, some dated September 1969 (1p. dated March).
- A.255 'Hildesheim' December.
- A.256 'Boston 1969' Diary.
- A.257 'Dec. 1969 Boston London' General notes and drafts including 'MGH Report' (see A.258); some pages torn out.
- A.258 'MGH Dec 1969 1970 Early part' General notes and drafts, many pages torn out; travel schedule for 1970 on inside back cover.
- A.259 '1969' General notes and drafts.
- A.260 'Schering 1970' General notes and drafts (includes a few notes dated October 1969).
- A.261 'CIBA February 1970'
- A.262 'Hildesheim Berlin Göttingen 1970' February.
- A.263 'FLIMS 1970' March (in Switzerland).
- A.264 'FLIMS 1970'
- A.265 'USA April 1970'
- A.266 'Marburg 1970' May.
- A.267 'Oslo 1970' May; also Amsterdam.
- A.268 'July 1970 Hamburg Heidelberg'
- A.269 Undated, perhaps October 1970; very many pages torn out.

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- A.270 'Switzerland Italy 1970' August-September. Paginated 1-121.
- A.271 'Indianapolis October 1970' Paginated 3-119; index on pp.15-17.
- A.272 'Halle 1970' November.
- A.273 'Munich 1970' November. Paginated 1-57.
- A.274 General notes and drafts, some dated November, December 1970 and 1971; several pages torn out.
- A.275 'Louvain' March 1971.
- A.276 'Canada, US April-May 1971'
- A.277 'Canada - US 1971' April-May.
- A.278 'Madrid 1971 & 1972' Both visits in May.
- A.279 General notes and drafts, some dated June. Many pages torn out.
- A.280 'Holiday 1971' June. A few pages torn out.
- A.281 'Indianapolis 1971' October.
- A.282 Undated, probably October 1971 Index inside front cover; many pages torn out.
- A.283 General notes and drafts, some dated November, December 1971.
- A.284 'Miami Indianapolis December 1971 January 1972' Index inside front cover; paginated 1-100.
- A.285 '1971/1972' General notes and drafts. Several pages torn out.
- A.286 '1971/2' General notes and drafts. Paginated 1-71; index on p.1 and inside front cover.
- A.287 'Israel 1972' March-April.
- A.288 'Germany 1972' April. Includes some loose pages torn from another notebook and dated February 1970.
- A.289 'Madrid May 1972', paginated 1-59.
- A.290 'Holland August 1972' (and some later notes).
- A.291 'Lindau 1972' June-July (and some notes dated September). Brief index on inside front cover.

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- A.292 'Kansas City Indianapolis 1972 Washington Bethesda' September. Paginated 2-118; index on inside front cover and front page.
- A.293 General notes, mainly October-November 1972.
- A.294 General notes and drafts, some dated October 1972, and some related to Indianapolis visit.
- A.295 Malta, December 1972. Paginated 1-31.
- A.296 Malta, December 1972.
- A.297 General notes and drafts, mainly on historical topics, perhaps for work on Warburg. Undated but kept with 1972 material.
- A.298 General notes and drafts, some dated April 1972, some related to visit to Copenhagen.
- A.299 'Copenhagen, Hamburg, Bonn 1973' May (and some later notes).
- A.300 'Bellagio 1973' General notes and drafts.
- A.301 'Bellagio' May. Includes work for Indianapolis.
- A.302 'Trier. Irish Holiday 1973' July-September (and some later notes).
- A.303 'US' September-October; part engagement schedule on inside front cover and front page.
- A.304 'USA Sept. 1973' September-October.
- A.305 'USA October 1973 Columbia Iowa City Chicago Philadelphia' October-November.
- A.306 'USA October 1973'
- A.307 '1973/74 Notes'
- A.308 General notes and drafts; same format as A.307 and kept with it; several pages torn out.
- A.309 'Visit to Freiburg November 1973'
- A.310 General notes and drafts (undated but kept with 1973 material).

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- A.311 General drafts and notes, including notes for Indianapolis dated February 1974; last entry in book, dated April 1973, is notes on 'Causes of Poverty'.
- A.312 'Israel 1974' March. Paginated 3-71; index on front page.
- A.313 'EMBO 3-5 April 1974 Sheffield'
- A.314 'Hannover 1974' April.
- A.315 'Madrid Kronberg Düsseldorf Bonn' (and other visits). May-June. Paginated 1-157.
- A.316 'Kronberg 1974' May.
- A.317 'Berlin 7-10 July 1974'
- A.318 General notes and drafts, some dated June, July 1974. Paginated 1-29 and some unnumbered pages.
- A.319 'Düsseldorf, Indianapolis, Philadelphia October 1974'
- A.320 'Jerusalem' November.
- A.321 'USA 1974/75' December 1974-January 1975. Paginated 3-119; index on first page.
- A.322 General notes and drafts, some dated December 1974.
- A.323 Visit to Hanover, February, and other notes.
- A.324 'Seville Brussels 1975' Paginated 1-85, index on inside front cover.
- A.325 'Vacation travel 1975' March-April. Paginated 1-83; index on inside front cover.
- A.326 'Travel May-June 1975' Visits to Madrid, Valencia, Bordeaux, Bonn. Paginated 1-79.
- A.327 'June 1975 Basel-Lindau'
- A.328 General notes and drafts, mainly at Lindau, June 1975.
- A.329 'Barcelona USA 1975' September-October.
- A.330 'Boston 1975' General notes and drafts; a few pages torn out.

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- A.331 'USA October 1975'
- A.332 'Hildesheim 28-30.11.75' Visit for 750th Anniversary of the 'Andreanum' (Krebs's old school) (Rem. & Refl., pp.9-10).
- A.333 Undated notes and drafts (kept with 1975 material).
- A.334 Undated notes and drafts (kept with 1975 material).
- A.335 'Malta 1976' January.
- A.336 'Berlin February 1976'. With some loose intercalated pages.
- A.337 'Notes for Philadelphia' Begins February, includes visit in August.
- A.338 'Australia 1976' April-May. Paginated 1-93.
- A.339 General notes and drafts, some during visit to Australia. Paginated 1-89.
- A.340 'Bonn Konstanz Hamburg Passau 1976' May-June.
- A.341 'May 1976' General notes and drafts.
- A.342 '1976' June; mainly related to visit, but some more general notes.
- A.343 'Hamburg' International Biochemical Congress, July.
- A.344 'USA September 25 to October 5 1976' Paginated 1-97.
- A.345 Spiral-bound notebook of drafts and notes written during visit, a few only dated September.
- A.346 'Munich Zurich Nov. 1976'
- A.347 'US January 1977 Miami Houston'. Paginated 3-95; index inside front cover.
- A.348 Larger format exercise-book of general notes and drafts, several related to Miami visit. Index inside front cover; very many pages torn out.
- A.349 'Ulm' February 1977. Paginated 1-111; index on p.1.
- A.350 Israel, March 1977. Paginated 1-111; index on p.1.
- A.351 Larger format exercise-book of general notes and drafts, several related to Israel visit and dated March 1977. Paginated 1-79; index inside back cover; many pages torn out.

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- A.352 'May 1977 Indianapolis - Toledo (Ohio) - East Lansing (Michigan) Bermuda' Paginated 1-109; index inside front cover.
- A.353 'June 1977 Pour le Mérite Frankfurt Marburg'
- A.354 'Philadelphia' September-October. Paginated 1-123.
- A.355 General notes and drafts. Paginated 1-71; index inside front cover.
- A.356 'USA 1978 January Miami, Dallas Charlotte' Large format exercise-book. Paginated 23-71; index inside front cover; many pages torn out. Includes some notes on other topics, and some dated May, June 1979.
- A.357 'Trip US January 1978' Paginated 3-112.
- A.358 'Berlin München March 1978' (and some later notes).
- A.359 '1978 Boston Evanston Bonn Lindau' (visits to Boston and Evanston in April, to Bonn in May, to Lindau June-July). Paginated 1-103, index on back cover.
- A.360 '1978 Braunlage Augsburg Rockville-Bethesda Madison' (visit to Germany in September, to US in October).
- A.361 General notes and drafts, some dated October and continued from A.360; also includes reflections 'On 80'.
- A.362 General notes and drafts related to 1978. Paginated 1-111, index inside front cover.
- A.363 General notes and drafts, December 1978 and later.
- A.364 'Saarbrücken Düsseldorf 5-8 March Berlin 14/15 March' (Visit to Berlin was for the publication of Krebs's biography of Warburg). Also visits to Hamburg and Hildesheim May-June, and Liverpool.
- A.365 Larger format exercise-book of general notes and drafts, mainly in German, some dated March 1979.
- A.366 Larger format exercise-book of general notes and drafts, some dated March, April 1979, a few dated August 1980; some pages torn out.
- A.367 General notes and drafts, some dated August, September 1979.
- A.368 General notes and drafts, some dated September, October 1979. Paginated 1-25 and several unnumbered pages; part index inside front cover.

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- A.369 General notes and drafts, some dated September, December 1979, and some February 1980. Paginated 1-109; index on p.1; travel plans for 1980-81 inside front cover.
- A.370 'Monte Carlo US Mexico Nov-Dec.1979' Paginated 1-105; index on pp.28-29.
- A.371 Larger format exercise-book of notes and drafts made during visits and dated November-December 1979. Paginated 1-75; index inside front cover; some pages torn out.
- A.372 Larger format exercise-book of notes and drafts December 1979. Paginated 1-33 and some unnumbered pages; index on p.1 and inside front cover; very many pages torn out.
- A.373 'Miami Dec-Jan. (1979-80)' Paginated 1-113; index inside front cover.
- A.374 'Munich 1980 Madrid' (Visit to Munich in February-March, to Madrid in June; another visit to Munich in July). Paginated 1-103; index on p.1 and inside front cover; a few pages missing, one loose intercalated page.
- A.375 'Dallas 1950' (sic) March. Paginated 1-103; index inside front cover.
- A.376 Loose pages torn from a different book, Dallas, March 1980.
- A.377 'USA May 1980'. Mainly Indianapolis, but also other journeys.
- A.378 Larger format exercise-book of notes and drafts, several dated May 1980. Paginated 17-39; many pages torn out.
- A.379 'Germany May-June 1980 Liège Düsseldorf Berlin Bonn Göttingen'. Paginated 1-67; index inside front cover.
- A.380 Visit to Germany, September-October. Paginated 1-111; index inside front cover.
- A.381 Visits to Halle, 10-12 November, and USA 13 November-1 December 1980. Paginated 1-111; index on p.1.
- A.382 Larger format exercise-book of notes and drafts, mainly on evolution, various dates November 1980; paginated 1-39; index inside front cover.
- A.383 'Notes on evolution', undated but kept with 1980 material.

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- A.384 Larger format exercise-book of notes and drafts, various dates
November 1980-May 1981.
- A.385 Larger format exercise-book of notes and drafts, some dated December
1980, January 1981; a few pages torn out.
- A.386 'USA May 1981 Washington-Harvard'. Also Berlin, May-June, and
includes 1p. dated 2 November. Paginated 1-111.
- A.387 General notes and drafts, for US visit and later. Paginated 1-113.
- A.388 'Lindau 1981 June'. Some notes at rear dated 1982 and 1984,
perhaps in error.
- A.389 General notes and drafts, 1981.
- A.390 Larger format exercise-book of general notes and drafts, mainly on
evolution, some dated June, July 1981.
- A.391 Larger format exercise-book of notes and drafts, 1981.
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- A.392-A.399 Undated notebooks
- A tentative order has been made on internal grounds.
- A.392 'Visit to National Institute for Research in Dairying' c.1954.
- A.393 c.1971
- A.394 Latest reference 1972.
- A.395 Before 1974. Several pages torn out.
- A.396 Latest reference 1974. Several pages torn out.
- A.397 Various dates January, February 1974, February 1975, February 1976.
- A.398 Book without front cover; latest reference '1978 & 9'.
- A.399 c.1981

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A.400-A.714 CAREER, HONOURS AND AWARDS

This is a major sequence of documentation on all aspects of Krebs's life, in chronological order.

Of especial interest and importance for the history of Krebs's career are the documents from his student days in Germany (A.400 - A.407), his time in the laboratory of Otto Warburg (A.408 - A.410) and as an assistant in the Department of Medicine at Freiburg (A.411 - A.419) and re his enforced emigration to England where he found refuge first at Cambridge and then at Sheffield (A.420 - A.424, A.436). The documents relating to a possible move to Palestine in the mid 1930s (A.425 - A.435) provide insights into Krebs's thinking on this subject not reflected in his autobiography.

In the postwar period the material re renewing contacts with Germany (A.449 - A.468), the offer of a Professorship at Harvard (A.470 - A.476) and the attempts of the Agricultural and Medical Research Councils to find, at Babraham and Carshalton respectively, larger accommodation for Krebs and his research team than was available at Sheffield (A.477 - A.481) are of particular interest.

The documentation of Krebs's career in this subsection should be consulted in conjunction with the scrapbooks, especially A.27, A.28.

Material respecting Krebs's numerous honours and awards bulks very large in this subsection but there are additional honours recorded with the visits in Section F and the certificates themselves are usually to be found in the scrapbooks especially A.29, A.30. The very substantial material relating to the award of the Nobel Prize in 1953 should be consulted in conjunction with the scrapbook at A.31.

The very numerous letters of congratulation received by Krebs on a great variety of occasions, the birthday greetings especially for his 70th and 80th birthdays and the letters of condolence sent to Lady Krebs often contain interesting reminiscences and tributes of both a personal and scientific nature.

Biographical and autobiographical

- A.400 Miscellaneous items re Hildesheim and Krebs's school, the Gymnasium Andreanum.
Includes school report, 1918.
- A.401 'Militärpass': booklet with details of Krebs's military service, 1918.
- A.402 Documents re student career at Göttingen University (December 1918 to the end of the summer of 1919).
- A.403 Documents re student career at Freiburg University (1919-21).
- A.404 Documents re student career at Munich University (1921-23).
- A.405 Documents re student career at Berlin University (one term only, winter 1922-23).
- A.406 Passport, issued 3 September 1924.
- A.407 Documents re Krebs's 'Promotion' to M.D., Hamburg University, 7 August 1925.
Folder includes earlier 1924 correspondence with Berlin, Halle and Hamburg universities re the acceptability of already published work as a dissertation.
- A.408 Documents from the period in the laboratory of Otto Warburg (1926-30).
Includes Krebs's letter applying for post of laboratory director in Mannheim, 10 May 1928, with copies of his curriculum vitae and list of publications and Warburg's letter of recommendation; also four typescript notes dated between January and May 1929 recording the remarks of 'W'.
- A.409 Brief correspondence related to or arising from 1929 visit to USA to attend 13th International Physiological Congress at Boston.
- A.410 Correspondence, 1930, re Krebs's search for a post when the time came for him to leave Warburg's laboratory.
Krebs moved first to the municipal hospital at Altona and then accepted an offer of a post at Freiburg under S.J. Thannhauser commencing 1 April 1931 (Rem. & Refl., pp.43-45).

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- A.411 Jahresbericht der Freiburger Medizinischen Gesellschaft 1931.
'H.A. Krebs: Versuche über den Kohlehydratabbau in lebenden Zellen' (pp.17-18).
- A.412 Correspondence re scientific equipment, 1930-31.

Invitation card for opening of new Freiburg clinic, 1 December 1931.
- A.413 Correspondence with C.F. Cori re possibility of Krebs joining his department at Washington University, St. Louis, May-October 1932.
Cori's initial approach was to Warburg.

Letter from Ella Sachs Plotz Foundation re grant for Krebs's research, 2 August 1932.
- A.414 Copy of article on Krebs's research written by his collaborator T.H. Benzinger, Kosmos, 1932.

Copy of Nature for 10 December 1932 incorporating F.G. Hopkins's Royal Society Presidential Address, with Krebs's ms. note explaining that the copy was given him by Georg von Hevesy because of Hopkins's reference to his work.
- A.415 Invitation card for Krebs's lecture on 'Harnstoffbildung im Tierkörper', Chemisches Gesellschaft Freiburg, 6 June 1932.

Invitation card for Krebs's lecture on 'Untersuchungen über den intermediären Eiweissstoffwechsel', Medizinisch-biologischer Abend der Universität, 18 July 1932.

3 invitation cards for Krebs's lecture on 'Untersuchungen über den Eiweissstoffwechsel', Kaiser Wilhelm-Gesellschaft zur Förderung der Wissenschaften, Berlin-Dahlem, 16 December 1932.

Card confirming payment of membership subscription to 'Verband der Ärzte Deutschlands (Hartmannbund)', 7 November 1932.
- A.415A Shorter unidentified items, all in German script, n.d. but possibly early 1930s.

Biographical and autobiographical

- A.416 Photocopies of important biographical documents, 1932-33.
Many of the originals are to be found in A.27 and were reproduced by Krebs in his autobiography, Reminiscences and Reflections.
- A.417 Freiburg University Vorlesungs-Verzeichnis (summer semester 1933); also photocopy of p.15 which refers to Krebs.
- A.418 Freiburg University Akademisches Vademecum (summer semester 1933).
- A.419 Correspondence, price list and receipts re scientific equipment, 1932, 1933 and n.d.
Folder also includes 5 'Eigentumschilder' of the 'Notgemeinschaft Deutschen Wissenschaft'.
- A.420-A.423 Correspondence re Krebs's departure from Germany and resettlement in England, 1933. See also A.27.
- A.420 March-April
Folder includes correspondence with W. Löffler re possible post for Krebs in Zurich, letter from A. Szent-Györgi encouraging Krebs to write to F.G. Hopkins if he was interested in a move to Cambridge (original of photocopy in A.27) and ms. draft of Krebs's letter to Hopkins (the letter as sent is in A.27).
- A.421 May
Folder includes S.J. Thannhauser's reference for Krebs (3 copies), carbons of Krebs's letters to R.A. Peters, F.G. Hopkins, F. Dickens and E.J. Allen and correspondence with Rockefeller Foundation.
- A.422 June
Folder includes letters from H.K.F. Blaschko, D.D. van Slyke and E.J. Allen.
- A.423 July-November
Letter from Krebs in Cambridge, 16 July, noting that everyone endeavoured to make life easy for him and that he had everything he needed for work.

Letter from Home Office, 3 August, re length of Krebs's stay in the United Kingdom.

Letter from the Verband der Ärzte Deutschlands, 16 November, terminating Krebs's membership.

Biographical and autobiographical

- A.424 Letter from Comité-International Pour Le Placement Des Intellectuels Réfugiés re a post of Physiological Chemist at a Portuguese university, 12 March 1934.
- Correspondence with J.C. Aub re post at Harvard Medical School, March-July 1934. See also A.27.
- Letters of congratulation on the occasion of Krebs's appointment as Demonstrator in Biochemistry at Cambridge.
- Letters from Cambridge University Vice-Chancellor re Krebs's continued residence in the United Kingdom, May and July 1934.
- Invitation (inspired by D. Keilin) for Krebs to attend meeting of Royal Society, December 1934.
- A.425-A.435 Correspondence and papers re possible move to Palestine, 1934-37.
- See also correspondence with D. Nachmansohn in Section J.
- For Krebs's own account of his interest in Palestine at this time and his visit there with Nachmansohn in 1936 see Rem. & Refl., pp.90-91.
- A.425 Correspondence with J.L. Magnes, Rector of the Hebrew University of Jerusalem, March-August 1934.
- Magnes's letter of 23 March informs Krebs of a proposed Cancer Research Institute and invites Krebs to come to the Hebrew University as head of the Division in Cell Chemistry and Metabolism.
- A.426 Correspondence with colleagues in Jerusalem, April-August 1934.
- A.427 Correspondence with Ch. Weizmann (and R.N. Salaman re meeting with Weizmann), May 1934-December 1935, March 1937.
- A.428 Correspondence with Rockefeller Foundation, September 1934.
- Krebs sought advice on the financial side of building up a research institute.
- A.429 Correspondence with J.H. Quastel, December 1934-January 1935.
- Includes long and very important letter from Krebs dated 22 December 1934 in which he explains (in terms of the financial difficulties and more especially the management of the Hebrew University) why he has declined the post at the Cancer Institute. The letter is marked 'nicht abgeschickt'.

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- A.429 (Cont'd.) The folder also contains a carbon of the shorter letter (dated 27 December 1934) which Krebs actually sent.
- A.430 Letters from the Jewish Agency for Palestine and the Zionist Organisation Central Office (both at 77 Great Russell Street, London W.C.1), May 1935-July 1937.
- A.431 Correspondence with the Trustees of the Cancer Research Trust at the Hebrew University of Jerusalem, February-July 1937.
- A.432 Brief miscellaneous correspondence re possible move to Palestine, 1934, 1936.
- A.433 'Memorandum über die Errichtung eines biologischen Forschungsinstitut in Palestina', Cambridge, 19 May 1935.
5pp. typescript.
- A.434 'Ordnung 5' (on research and teaching) of 'Gesamtdarstellung der Hebraeischen Universitaet, Jerusalem, 1936'.
- A.435 Notebook used to keep record of journey to Palestine and (part of) Krebs's stay there, 15 March-9 April 1936, with miscellaneous receipts, tickets, etc., kept as loose papers.
- A.436 Duplicated sheet advertising lectureship in pharmacology at Sheffield University; letters from E.J. Wayne to Krebs re his appointment; carbon of letter from Rockefeller Foundation to Vice-Chancellor of Sheffield University re grant for Krebs's research. 1935.

Letters from Royal Society re application for a Royal Society Government Grant, February 1936.
- A.437 'The role of citric acid in intermediate metabolism in animal tissues', 1937.

2 copies of the paper containing the first announcement of the citric acid cycle which was returned by the Editor of Nature because 'he had already sufficient letters'.

2 photocopies of the letter from the Editor of Nature returning the paper, 14 June 1937.

Carbon of Krebs's letter to the Editor of Nature, 7 April 1967, re the 1937 episode.

See also A.27.

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- A.438 Letter from Academic Assistance Council re unconditional permit of residence for Krebs, 29 October 1935.
- Letters from German Consulate in Liverpool re Krebs's passport, 1937-38. See also A.27.
- Letters from French Consulate re visa application, August 1938.
- Correspondence re Krebs's naturalisation as a British subject, 1938-39.
- A.439 Card indicating that Krebs was registered with the Medical Department Central Office for Refugees and had 'offered his professional services in a time of National emergency'; newspaper-cutting re compulsory registration under a Ministry of Labour and National Service Order; documentation from Royal Society re Central Register (Section for Scientific Research). 1939-40.
- A.440 Letter for publication re 'internment and restriction measures against aliens of the C class, that is those classed as "victims of Nazi oppression"', submitted to the Manchester Guardian, 4 June 1940.
- Letter to the Editors of Nature on the same subject (not for publication) and the Editors' reply, July 1940.
- A.441 Copy of letter from Vice-Chancellor, Sheffield University, to Minister of Health, applying for Krebs's inclusion in the Temporary Medical Register, 10 April 1942.
- Letter from Registrar, Sheffield University, re deferment of military service, 22 March 1943.
- A.442 Duplicated sheet inviting applications for the Johnston Chair of Biochemistry, University of Liverpool; Krebs's letter of application and curriculum vitae, July 1943.
- A.443 Letter offering Krebs post of Professor of Biochemistry at Sheffield, 12 February 1945.
- Letters of congratulation presented in an alphabetical sequence.

Biographical and autobiographical

- A.444-A.448 Election to the Fellowship of the Royal Society, 1947.
- A.444 Correspondence re Krebs's admission to the Fellowship.
- Copy of the Sheffield Jewish Journal, June 1947, with report of Krebs's election.
- A.445-A.448 Letters of congratulation presented in an alphabetical sequence.
- | | | | |
|-------|-------|-------|--|
| A.445 | B - F | A.447 | N - S |
| A.446 | G - M | A.448 | T - Y, unidentified and first names only |

- A.449-A.468 Renewing contacts with Germany, 1945-50

At the end of the Second World War, Krebs took very seriously the question of renewing contacts with Germany both in respect of his own family (A.107, A.108, A.775) and of scientific colleagues, and devoted a chapter of his autobiography to discussing it (Rem. & Refl., ch.13). The material presented here was kept together by Krebs and probably used in the preparation of the autobiography.

See also A.28.

- A.449 Visit of German scientist (E. Lehnartz) to Sheffield in March 1948.
One letter only.

Invitation from German Biochemical Society for Krebs to attend their annual conference at Frankfurt on 29 and 30 September 1948. Krebs agreed to attend this meeting but owing to 'unforeseen and urgent' duties at Sheffield he was later forced to withdraw.

Correspondence re arrangements with Foreign Office (German Section) and British and German colleagues, May-September 1948.

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- A.450-A.453 First International Congress of Biochemistry, Cambridge, 1949.
In 1948 the organising subcommittee decided that because of the objections of other continental biochemists, German scientists would not be invited. Krebs felt very strongly that three years after the end of the war the time for such exclusions was past and that as a refugee from Nazi persecution himself he had a special responsibility to advocate the reestablishment of normal relations with Germany. In the end personal invitations were sent to four German biochemists: K. Felix, E. Lehnartz, Th. Wieland and H.-J. Deuticke. (Rem. & Refl., pp.152-153.) See also F.17, H.425, J.51.
- A.450-A.452 Correspondence with British, German and French colleagues re admission of German scientists to the Congress.
- A.450 September-November 1948 A.452 February-June 1949
- A.451 January 1949
- A.453 Correspondence, 1972, 1975-76, undertaken by Krebs while researching an article on the 1949 Congress which was published in TIBS, August 1976 (not listed in Bibliog.).
Folder also includes copies of Biochemical Society Committee Minutes, 1946-47; copy of published article; and Krebs's ms. notes on renewing contacts with Germany after the war.
- A.454 Annual conference of the German Biochemical Society, Göttingen, 31 August-3 September 1949.
This was the occasion of Krebs's first postwar visit. See Rem. & Refl., pp.155-156.
Brief correspondence re arrangements; programme.
- A.455-A.468 Correspondence with individuals (mostly Germans) and organisations re renewing of contacts after the war, 1945-49.
- A.455 Abderhalden, E. 1947
Relocation in Zurich; starting a new journal.
- Benesch, R. (Polish Jewish refugee) 1946
- Breusch, F.L. 1947
News of German universities; thanks Krebs for his friendly reception in Sheffield.

Biographical and autobiographical

- A.456-A.459 Bücher, Th. 1945-49
- Much of the correspondence relates to Krebs's efforts to help this former collaborator of Otto Warburg secure publication of his scientific papers and includes Krebs's correspondence with editors of journals. See Rem. & Refl., pp.149-150.
- Four folders.
- A.456 November 1945-June 1946. Includes undated ms. letter (and typescript copy dated 28.11.45 by Krebs) with news of Warburg.
- A.457 July-December 1946. Includes carbon of Krebs's letter of 15 August in which he mentions that the idea of providing Warburg with facilities for work in Britain had aroused the violent opposition of some people.
- A.458 1947. Includes carbon of Krebs's letter of 16 June in which he discusses the polemical character of Warburg's book Schwermetalle als Wirkungsgruppen von Fermenten.
- A.459 1948-49. Includes Bücher's letter of 15 October 1948 with report of the Frankfurt meeting of the German Biochemical Society.
- A.460 Butenandt, A. 1947
- Krebs wrote that it was time to rebuild international scientific contacts and enquired about C. Martius.
- Elsevier Publishing Company / Biochimica et Biophysica Acta
1946, 1949-50
- 1946 announcement of new journal (BBA).
- 1949 suggestion that the Board of Editors should be enlarged to include a representative from Germany.
- Foreign Office (German Section) 1949
- Supply of scientific literature between Britain and Germany.
- A.461 Gaffron, H. (refugee) 1949
- Meeting Warburg in America; symposium on carbon dioxide fixation to be held in Sheffield in July 1950.
- Guyot, Olga 1948
- One letter only.

Continued

Biographical and autobiographical

- A.461 (Cont'd.) Handovsky, H. 1945
re article on Cell Metabolism by Krebs (and W.A. Johnson) which had been due to appear in Cellula in 1940. (Bibliog. 125.)
- A.462 Kogut, Margot 1947
Postwar conditions in Berlin in general and at the University in particular; securing a copy of Warburg's book for Krebs.
- A.463 Kroetz, Klothilde 1946-49
Terrible conditions in Germany; arrangements for a visit to England.
- A.464 Kussmann, Eva Maria 1947
One letter only.
- Lynen, F. 1948
Scientific cooperation; transporting samples of yeast to Sheffield.
- Martius, C. 1948
One letter only.
- A.465 re Ostern, P. (Polish biochemist d.1943) 1945-46, 1949.
News of his death in Poland; return to his widow in Poland of valuables left by Ostern in England in 1939.
- Parnas, J.K. (Polish biochemist relocated in Russia) 1947
His non-attendance at the International Physiological Congress in Oxford.
- A.466 Thannhauser, S.J. (refugee) 1949
Krebs's 1949 visit to the USA.
- Tidow, G. 1946-49
Includes correspondence re shortage of medical supplies in Germany, especially insulin.

Biographical and autobiographical

- A.467 Warburg, O.H. 1945, 1947
1945. Correspondence with H.K.F. Blaschko and J.S. Huxley
re news of Warburg.

1947. 2 copies of Krebs's letter to Warburg of 14 June re his book
Schwermetalle als Wirkungsgruppen von Fermenten (Rem. & Refl.,
pp.150-151).
- A.468 Weber, H.H. 1947-48
Reprints; the Frankfurt Congress of the German Biochemical Society;
the First International Biochemical Congress.

Weil-Malherbe, H. (refugee) 1947
re posts in New Zealand and Geneva.

Wrede, F. 1947
- A.469 Documents re Krebs's candidacy for the Sir William Dunn Professorship
in Biochemistry at Cambridge, 1949.

Brief correspondence re Krebs's election by the Accademia Nazionale
dei Lincei as Socio Straniero della Classe delle Scienze Biologiche,
1951.

Biographical and autobiographical

A.470-A.476 Correspondence and papers re offer of Professorship at Harvard, 1951.

In May 1951 Krebs received a letter from George Wald, Professor of Biology at Harvard, informing him 'that Harvard's Administration had decided to explore the possibility of appointing a small number of new Professors in the Department of Biology in order to bring a few men of high distinction into the Department'. Krebs expressed interest in such an appointment and Harvard invited him 'to spend a week there as Visiting Lecturer, to give two or three lectures, and discuss the projected professorship' (Rem. & Refl., p.180). Krebs visited Harvard from 16 October and lectured on 'The tricarboxylic acid cycle in micro-organisms', 'The free energy changes associated with the tricarboxylic acid cycle and the efficiency of oxidative phosphorylation' and 'Some aspects of energy utilization in living matter' (Bibliog. 157). See also A.49.

A.470 Correspondence with Harvard re projected professorship, arrangements for visit; lecture poster.

A.471, A.472 Correspondence with colleagues and Rockefeller Foundation re possible move to Harvard, other engagements during visit.
2 folders.

A.473 Social and personal correspondence during visit.

A.474 Typescript diary of American visit; miscellaneous ms. and typescript notes.

A.475 Miscellaneous memorabilia.

A.476 Correspondence with Harvard and Rockefeller Foundation after Krebs's return to Sheffield; documents re Exchange Control Act, 1947 and Krebs's ms. notes on the financial considerations involved in emigration.

Biographical and autobiographical

- A.477-A.480 Correspondence and papers re projected move of Krebs and his research team to the Agricultural Research Council Institute at Brabraham, near Cambridge, September 1951-January 1952.
Four folders:
- A.477 September-October 1951
Includes typescript notes of Krebs's discussions with Sir William Slater and Lord Rothschild.
- A.478 November 1951
Includes typescript notes of Krebs's discussions with Sir William Slater, the Vice-Chancellor of Sheffield University and Sir Arthur Trueman (Chairman of the University Grants Committee).
- A.479 December 1951 (1)
Includes typescript notes of discussions with Slater and of Sheffield Biochemistry Department meeting after visit to Brabraham; also photographs of Brabraham.
- A.480 December 1951 (2), January 1952
Includes typescript notes of discussions with Slater and Vice-Chancellor of Sheffield University and of departmental meeting.
- A.481 Correspondence and papers re projected move to the Medical Research Council's Serum Research Institute at Carshalton, January-February 1952.
- A.482-A.486 Lasker Award of the American Public Health Association, 1953.
- A.482 Letter informing Krebs of award; correspondence re arrangements for visit to New York for award ceremony; letters of thanks.
- A.483 Publicity material, etc. re Lasker Awards.
- A.484 Press-cuttings.
- A.485 Correspondence with colleagues re visit to New York. Includes some letters of congratulation.
- A.486 Small hardbacked notebook used by Krebs for diary of visit to New York.

Biographical and autobiographical

A.487-A.554 THE NOBEL PRIZE, 1953

See also A.28, A.31, A.122.

For Krebs's own account of the rumoured award of the Nobel Prize in 1952 and the actual award in 1953 see Rem. & Refl., ch.15.

A.487 Invitation to nominate a candidate for the Nobel Prize for Physiology and Medicine in 1949, with carbon of Krebs's reply explaining why he felt unable to comply.

Letter from F. Cedrangolo re his proposal to nominate Krebs for Nobel Prize, 23 November 1951; Krebs's reply with summary of his research.

Brief correspondence re rumoured award of Nobel Prize to Krebs in 1952.

Documents re award of Nobel Prize in 1952 to S.A. Waksman.

A.488 Two photocopies of telegram from Caroline Institute announcing award of the 1953 Prize in Physiology and Medicine.

Original and photocopy of telegram of congratulations from Swedish Ambassador.

Biographical and autobiographical

A.489-A.531 Letters of congratulation

By his own reckoning, Krebs received 586 letters and telegrams of congratulation, over a period of one year. He arranged them in groups according to date received (not, of course, the date of despatch) and this arrangement has been respected here. Krebs's sheet of notes setting out his arrangement is preserved at A.489. Initially, Krebs kept together all the letters arriving on a particular day, but as the flow of letters lessened so the timespan covered by each group lengthened from a few days to a week, a month and so on. Letters sent to his wife, Christmas cards, and late or special messages form groups of their own. Letters for 21 and 22 October 1953 are described by Krebs as 'premature', presumably because they were sent before the official announcement. It should be noted that the three congratulations which Krebs lists as arriving on 20 October are not preserved here but in the scrapbook at A.31, and the thirty-one congratulations which Krebs lists as arriving on 29 October were not found separately identified by him and seem at some point to have become incorporated with those that arrived on 26 October.

The correspondents include scientific colleagues, personal friends and relations, and acquaintances and sometimes unknown writers in Germany who sent, along with their congratulations, reminiscences of Krebs's family, home and events during and after the Second World War.

There is a separate, additional group of letters written to Krebs's step-mother in Germany and subsequently forwarded to him; these appear at A.528.

Carbons of Krebs's replies to the letters and telegrams of congratulation appear at A.529-A.531.

Biographical and autobiographical

A.489	Krebs's ms. note of his arrangement of the letters.		
A.490	'Premature 21.10.53'	A.509	4.11.53
A.491	'Premature 22.10.53'	A.510	5.11.53
A.492	23.10.53 (1)	A.511	6.11.53
A.493	23.10.53 (2)	A.512	7.11.53
A.494	23.10.53 (3)	A.513	9.11.53
A.495	24.10.53 (1)	A.514	10-11.11.53
A.496	24.10.53 (2)	A.515	12-14.11.53
A.497	24.10.53 (3)	A.516	18.11.53
A.498	25.10.53	A.517	19-21.11.53
A.499	26.10.53 (1)	A.518	23-28.11.53
A.500	26.10.53 (2)	A.519	29.11.-6.12.53
A.501	26.10.53 (3)	A.520	7-31.12.53
N.B.	A.499-A.501 probably incorporate letters received 29.10.53		
A.502	27.10.53 (1)	A.521	January 1954
A.503	27.10.53 (2)	A.522	February 1954
A.504	28.10.53	A.523	'Margaret'
A.505	30.10.53	A.524	March-April-May 1954
A.506	31.10.53	A.525	'Christmas'
A.507	2.11.53	A.526	'Late and Special'
A.508	3.11.53		

Biographical and autobiographical

- A.527 Miscellaneous correspondence re Nobel Prize including letters of congratulation not found with the preceding.
Folder includes translation of letter from the Dean of the Faculty of Medicine at Freiburg. For original see A.31.
- A.528 Letters of congratulation written to Krebs's step-mother in Germany. Unindexed.
- A.529-A.531 Krebs's replies to letters of congratulation presented in an alphabetical sequence. Unindexed.
3 folders:
A.529 A - H A.530 I - R A.531 S - Z
- A.532 Miscellaneous correspondence: requests for autographs.
- A.533 Miscellaneous correspondence: cranks (Krebs's designation).
- A.534 Miscellaneous correspondence: appeals for help.
- A.535 Miscellaneous correspondence: requests for articles, interviews and photographs for the press.
- A.536-A.544 Visit to Stockholm
- A.536 Correspondence with Swedish authorities re Nobel Prize ceremonies.
- A.537 Correspondence re travel arrangements.
- A.538 Correspondence with P.S. Hench with advice about Nobel ceremonies; printed matter.
- A.539 Social and personal correspondence.
- A.540 Invitations to lecture in conjunction with Nobel ceremonies.
- A.541 Krebs's notes on visit to Stockholm, address to students.

Short articles written by the Krebs children on their impressions of Stockholm, for a Swedish newspaper.

Biographical and autobiographical

- A.542 Programmes, statutes of the Nobel Foundation, etc.
- A.543 Traduction des Discours à la Fête Nobel 1953 (printed booklet).
- A.544 Printed copy of Krebs's Nobel Lecture 'The Citric Acid Cycle' (Bibliog. 173).
- A.545-A.547 Krebs honoured by City and University of Sheffield
- A.545 Copy of minutes of the University Senate, 6 November 1953.

Copy of minutes of the Board of the Faculty of Medicine, 18 November 1953.

Addresses to the University Court, 11 December 1953.

Copies of the Sheffield University Gazette for November 1953 and March 1954.
- A.546 Correspondence re dinner given by University in Krebs's honour, illuminated copy of Sheffield City Council's resolution of congratulations, etc.
- A.547 Menus and table plan for university dinner; drafts of Krebs's remarks; 2 copies of song for October 22, 1953: 'The first Nobel that was honoured this day'.
- A.548, A.549 Krebs honoured by Friends of the Hebrew University of Jerusalem
- A.548 Correspondence (principally with W. Zander, Secretary of the Friends) re dinner held under the auspices of the Medical Group of the Friends.

Personal correspondence with Grete Zander.

Newspaper-cutting.
- A.549 Invitation cards for dinner given by the Sheffield Branch of the Friends (Krebs was chairman of the Sheffield Branch).

Draft for Krebs's speech at Sheffield dinner.

Invitations from Leeds and Manchester Friends (declined).

Biographical and autobiographical

- A.550-A.553 75th Anniversary of Nobel Foundation, 1975
- A.550 Correspondence with Swedish organisers; correspondence re travel arrangements.
- A.551 Information about anniversary, programmes, lists of participants.
- A.552 Invitation cards; press-cuttings.
- A.553 Correspondence re seminar by Krebs at University of Stockholm during anniversary celebrations.
Krebs talked on the 'Regulation of Folate and Methionine Metabolism in the Rat'.
- A.554 Newspaper-cuttings
1 Box.
- A.555-A.566 Whitley Professorship of Biochemistry, University of Oxford, 1954
- A.555-A.557 Correspondence with scientific colleagues, officers of the university and Medical Research Council re Krebs's election to the Whitley Professorship, transfer of the Medical Research Council Unit, etc., arranged in a chronological sequence.
- A.555 March-April
Letters encouraging Krebs to apply for the Whitley Professorship. In a letter drafted at The Ambassadors Hotel, Atlantic City, Krebs raised the question of his long-term responsibilities towards the MRC and towards the staff of his unit.

Biographical and autobiographical

- A.569 Brief correspondence re Krebs's appointment as a member of the Agricultural Research Council, 1955.
Brief correspondence re Krebs's re-appointment, 1960.
- A.570 Brief correspondence re Krebs's appointment as Honorary Consulting Biochemist to the United Oxford Hospitals, July 1956.
Brief correspondence re offer of Chair of Physiological Chemistry at Freiburg, October 1956.
- A.571, A.572 Honorary Degree of the University of Paris, November 1956.
- A.571 Correspondence re arrangements.
- A.572 Programme; invitation cards; press-cuttings, etc.
- A.573 Brief correspondence re Krebs's election as Honorary Fellow of the National Institute of Sciences of India, 1957.
- A.574 Letters of sympathy on the occasion of Krebs's street accident, 1957.
- A.575-A.591 Knighthood, 1958
Letters of congratulation presented in an alphabetical sequence.
- | | | | |
|-------|--------|-------|---------------------------------|
| A.575 | A - Ba | A.583 | M |
| A.576 | Be-Bu | A.584 | N - P |
| A.577 | C, D | A.585 | Q, R |
| A.578 | E, F | A.586 | S |
| A.579 | G | A.587 | T - V |
| A.580 | H | A.588 | W, Z |
| A.581 | I - K | A.589 | first names and
unidentified |
| A.582 | L | | |
- A.590 Carbons of Krebs's replies to letters of congratulation. Unindexed.
- A.591 Newspaper-cuttings.

Biographical and autobiographical

- A.603 Honorary Degree of the University of Leicester, July 1963.
Correspondence re arrangements for degree ceremony; order of proceedings.

Correspondence re reception in Krebs's honour given by Leicester Branch of the Friends of the Hebrew University of Jerusalem; press-cutting re endowment of scholarship in Krebs's honour at the Hebrew University.
- A.604 Letter from Spanish Ambassador informing Krebs of the wish of the University of Granada to confer an honorary degree, 27 April 1964.
Also included is brief later correspondence with Rector of the University of Granada, 1981.
- A.605 Election to the Associate Foreign Membership of the U.S. Academy of Sciences, April 1964.

Letters of congratulation presented in an alphabetical sequence.
- A.606 Honorary Degree of the University of Leeds, 14 May 1964.
Newspaper-cuttings only.

Election to Council of Royal Society, November 1964.
- A.607 Gold Medal of the Royal Society of Medicine, 1965.
Brief correspondence only.

Honorary Degree of the University of Pennsylvania, 1965.
Newspaper-cutting only.

Life Membership of the Medical Protection Society Limited, 1965.
Brief correspondence only.
- A.608 65th birthday greetings including telegram from President of the Federal Republic of Germany and Krebs's draft reply, 1965.

Biographical and autobiographical

- A.609 Brief correspondence re appointment as Vice-President of the Royal Society, 1966.
- Brief correspondence re election to Fellowship of St. Cross College, Oxford, 1966; miscellaneous later correspondence re St. Cross.
- Invitation for Krebs to serve as member of Board of Electors to the Sibthorpe Professorship of Rural Economy, Oxford, 1966.
- A.610, A.611 Honorary Degree of the University of Bordeaux, October 1966.
- A.610 Correspondence re arrangements.
- A.611 Invitation cards; menus; press-cutting.
- A.612 Honorary Professorship at the Royal Free Hospital School of Medicine. 1966.
- A.613-A.626 Retirement from Whitley Professorship of Biochemistry, 1967.
- A.613-A.616 Correspondence re offers of post-retirement appointments, 1965-67, declined by Krebs. Presented in an alphabetical sequence by name of institution. Includes earlier (1962) offer from University of Pennsylvania and one later letter (1969). See also F.124, F.137, F.138, F.156.
- | | | | |
|-------|----------|-------|---------|
| A.613 | A, Ca-Ch | A.615 | E, L, N |
| A.614 | Co, D. | A.616 | P, T, W |
- For Krebs's post-retirement move to a laboratory at the Radcliffe Infirmary, Oxford, see C.108-C.123.
- A.617-A.623 Biochemical Society Symposium in Krebs's honour, Oxford, July 1967.
- A.617-A.620 Correspondence with organisers, contributors et al presented in an alphabetical sequence.
- | | | | |
|-------|------|-------|---------|
| A.617 | A, B | A.619 | K |
| A.618 | F, G | A.620 | L, R, S |
- A.621 Krebs's ms. and typescript notes re symposium, photocopies from published proceedings of F. Dickens's opening remarks and H.L. Kornberg's biographical account, etc.

Biographical and autobiographical

- A.622 Agenda papers annotated by Krebs.
- A.623 Telegrams of congratulation and letters from those unable to attend
 symposium. Presented in an alphabetical sequence.
- A.624 Miscellaneous items re dinner for Sir Hans and Lady Krebs given by
 MRC staff and visitors at Trinity College, Oxford, July 1967.
 Includes signed menu.
- A.625 Ms. and typescript drafts of Krebs's various retirement speeches.
- A.626 Miscellaneous items re Krebs's retirement.
 Includes 1p. typescript note 'Arrangements for retirement', letter
 from H.P. Himsworth expressing his own and the MRC's appreciation
 of Krebs's work and letter from R.R. Porter re portrait and photograph
 of Krebs.
- A.627 Honorary Fellow of the College of Pathologists, 1967.
 Visitor to the Flour Milling and Baking Association, 1967.
- A.628 Honorary Member of the Section of Experimental Medicine and
 Therapeutics of the Royal Society of Medicine, 1968.
 Foreign Member Istituto Lombardo, 1968.
 Honorary Fellow Trinity College, Oxford, 1968.
- A.629 Honorary Member of the Deutsche Akademie der Naturforscher
 Leopoldina, 1969.
 Honorary Fellow Institute of History of Medicine and Medical Research
 (New Delhi), 1969.
- A.630-A.640 Krebs's 70th Birthday, 1970.
- A.630-A.635 Birthday greetings presented in an alphabetical sequence.
- | | | | |
|-------|-------|-------|-------|
| A.630 | A, B | A.632 | K - P |
| A.631 | C - J | A.633 | R - W |
- A.634, A.635 unidentified and first names only.

Biographical and autobiographical

- A.636 Press-cuttings.
- A.637-A.640 Birthday dinner party in Trinity College, Oxford.
- A.637 Ms. notes and brief correspondence with Trinity College re arrangements.
- A.638 Draft and carbons of letter of invitation.
- A.639, A.640 Replies presented in an alphabetical sequence.
- | | | | |
|-------|-------|-------|-------------------------------------|
| A.639 | B - Q | A.640 | R - W, first names and unidentified |
|-------|-------|-------|-------------------------------------|
- A.641, A.642 Honorary Member Deutsche Gesellschaft für Innere Medizin, 1972.
- A.641 Brief correspondence re Krebs's election.
- A.642 Cased certificate.
- A.643 Honorary Degree of University of Bristol, 1973.
Correspondence re arrangements; presentation address; certificate.
Birthday greetings card, with ms. note by Lady Krebs, 1973.
- A.644 Corresponding Member Bayerische Akademie der Wissenschaften, 1974.
Correspondence re Krebs's election.
- A.645, A.646 Médaille de Vermeil de la Ville de Paris, 1975.
- A.645 Correspondence re arrangements; drafts of Krebs's speech in English and French.
- A.646 Certificate.
- A.647, A.648 75th Birthday, 1975.
Birthday greetings. 2 folders.

Biographical and autobiographical

- A.649 Letter from the Medical School Offices, Oxford University, informing Krebs that his name has been removed from the list of members of the Faculty of Clinical Medicine, 16 September 1975.
- Letter from the President of the Bavarian Academy of Sciences with good wishes on the occasion of Krebs's Golden Jubilee as a doctor, December 1975.
- A.650 Honorary Fellow of the Royal Society of Edinburgh, 1976.
Brief correspondence re election.
- A.651 Letter from Oxford University informing Krebs that his name is not included in the revised Register of Members of Congregation, as Emeritus Professors over 75 are not eligible for membership, 18 February 1977.
- Socio d'Onore Società Italiana per il Progresso delle Scienze, 1977.
Brief correspondence re election.
- Academico Correspondiente Extranjero, Academia de Ciencias Medicas (Argentina), 1977.
- 77th birthday greetings, 1977.
- A.652 Award of the American College of Physicians, 1978.
Correspondence re arrangements.
- A.653 Honorary Degree of University of Cambridge, 1979.
Correspondence re arrangements; order of proceedings and speeches of the orator.
- A.654 Copy of letter from Krebs to Managing Director, Reader's Digest Association Limited, 15 June 1979, re 'Library of Modern Knowledge' in which his lifespan is noted as 1900-1976.
- Hans Krebs Lecture of the Medizinische Hochschule, Hanover, 1979.
Brief correspondence re association of Krebs's name with annual lecture at Hanover.

Biographical and autobiographical

- A.655 Honorary Degree of University of Liverpool, 1979.
Correspondence re arrangements; orations; certificate.
- A.656 Honorary Citizenship of Texas, March 1980.
Certificates only.
- A.657, A.658 Honorary Degree of Indiana University, May 1980.
- A.657 Brief correspondence; certificate; presentation address, etc.
- A.658 'Commencement 1980'. Printed booklet.
- A.659, A.660 Honorary Degree of the University of Göttingen, May 1980.
- A.659 Brief correspondence; certificate.
- A.660 Annual report of the Gymnasium Andreanum Hildesheim with account
of Krebs's honorary degree at Göttingen.
- A.661 30th Conference of the Biological Chemistry Society, University of
Düsseldorf, 27-29 May 1980.

The conference was held 'in honour of Sir Hans A. Krebs in the year
of his 80th Birthday'.

Invitation; programme; list of participants; published accounts;
photograph, etc.

Biographical and autobiographical

Krebs's 80th Birthday, 1980.

A.662-A.680

Birthday greetings.

Many are very brief messages of congratulation but others include extended reminiscences, tributes or discussions of current research.

A.662 Ba - Be

A.671 N, P

A.663 Bi - C

A.672 Q, R

A.664 D

A.673 Sa - Sh

A.665 E - G

A.674 Si - Sz

A.666 H

A.675 T, V

A.667 J

A.676 W - Z

A.668 K

A.677 Family

A.669 L

A.678-A.680 Unidentified and
first names only

A.670 M

A.681

'Sir Hans Krebs: Eightieth Birthday Congratulations', Biochemical Society Bulletin (1980).

Tribute by H.L. Kornberg, and photograph (4 copies).

A.682

Press-cuttings.

A.683

Dinner for Sir Hans Krebs at Trinity College, Oxford, 4 November 1980.

Menu only.

For Biochemical Society meeting at Sheffield, July 1980, to honour Krebs's 80th birthday see B.98-B.100.

A.684

Visitor, Boston University School of Medicine, 1981

Invitation to Krebs to become a member of Board of Visitors, correspondence re scheduling of annual meeting, etc., 1980-81.

Biographical and autobiographical

- A.685 Member of Board of Directors, Heineman Medical Research Center, Charlotte, North Carolina, 1981.
Brief correspondence re Krebs's membership of Board of Directors.
Folder also includes later (1982) letter to Lady Krebs re the establishment of the 'Hans Krebs Fellowship' at Charlotte.
- A.686 Brief correspondence re establishment of the 'Hans-Adolf-Krebs-Preis' by the Deutsche Gesellschaft für Ernährung, 1981.

Krebs's death.
- A.687 'Arrangements after my death'
Ms. and typescript notes by Krebs, n.d., re disposition of his papers, books, reprints, etc.
- A.688 Order of service for Krebs's funeral, Trinity College Chapel, Oxford, 26 November 1981.

Notices and order of service for memorial service, University Church of St. Mary the Virgin, 6 February 1982; memorial service addresses.
- A.689-A.711 Letters of condolence, some including extended reminiscences and tributes.
- | | | | |
|-------|---------|-------|------------------|
| A.689 | A | A.701 | Li-Lo |
| A.690 | Ba - Be | A.702 | M |
| A.691 | Bl - Bu | A.703 | N |
| A.692 | C | A.704 | O - Q |
| A.693 | D | A.705 | R |
| A.694 | E, F | A.706 | Sa - Sh |
| A.695 | G | A.707 | Si - Sz |
| A.696 | Ha - He | A.708 | T |
| A.697 | Hi - Hu | A.709 | U, V |
| A.698 | J | A.710 | W - Z |
| A.699 | K | A.711 | First names only |
| A.700 | La - Le | | |
- A.712 Messages sent with flowers. 1 envelope.

Biographical and autobiographical

- A.713 Honours offered to Krebs in ignorance of his death, 1982.

 Accademia Mediterranea delle Scienze.

 University of Southern California.
- A.714 Invitation card and photocopy of press-cutting for 'acto de Homenaje'
 of the University of Granada on the first anniversary of Krebs's death,
 1982.

Biographical and autobiographical

A.715-A.887 FAMILY CORRESPONDENCE AND PAPERS

- A.715-A.786 The Krebs family
- A.787-A.791 The Davidson family
- A.792 The Traube family
- A.793-A.796 Other relatives
- A.797-A.869 Restitution claims
- A.870-A.887 Genealogy

The material is presented as above, with an indication of the family relationships where this is ascertainable. The very extensive sequences of family correspondence of the 1930s and later reflect on the sufferings of Jews in Nazi Germany, their enforced emigration to Britain, Palestine and elsewhere, renewal of contacts after the Second World War and claims of restitution from the German state.

Biographical and autobiographical

The Krebs family

A.715-
A.728

Georg Krebs (father), 1867-1939

Letters and cards from Krebs's father, 1922-24, 1933-39.

Many of the 1930s letters have postscripts from Krebs's stepmother, Maria. There is one letter from Krebs to his father, 26 December 1938, re his half-sister, Gisela. The letter from W.A. Rosenstein to Krebs in A.728 is about the death of Krebs's father.

14 folders.

A.715	1922-24	A.722	1937, January, February
A.716	1933, April-July	A.723	1937, June-December
A.717	1933, August-December	A.724	1938, January-April
A.718	1934, February-June	A.725	1938, June-August
A.719	1934, July-December	A.726	1938, September-December
A.720	1935	A.727	1939, January, February
A.721	1936	A.728	1939, May-September

A.729

Alma Krebs (née Davidson) (mother), 1870-1919

Letters and cards to Krebs, 1918-19.

Biographical and autobiographical

A.730-
A.744

Elisabeth (Lise) Krebs (later Daniel) (sister), 1895-1985

Letters and cards from Krebs's sister, 1917-70, from Germany and, after the Daniels' emigration in 1936, from Palestine. The sequence includes a small number of items from Lise's husband, Adolf Daniel, and a small number of items addressed to Krebs's younger brother, Wolfgang. There is a letter from Krebs to his sister re their father's estate, 26 November 1939, and a 6pp. report of his first post-Hitler visit to Germany, dated 11 September 1949.

15 folders.

A.730	1917-19	A.738	1938, July-December
A.731	1920-23	A.739	1939
A.732	1933	A.740	1940-42
A.733	1934	A.741	1944-46
A.734	1935	A.742	1947-49
A.735	1936	A.743	1950-52
A.736	1937	A.744	1967, 1970, n.d.
A.737	1938, January-May		

Biographical and autobiographical

A.745-
A.762

Ernst Wolfgang Krebs (brother), b.1902

Letters and cards from Krebs's younger brother, 1919-52. Wolfgang came to England in 1936 and was interned for a time in the war. Includes some items from Wolfgang's wife, Lotte.

18 folders.

A.745	1919, nd., 1923	A.754	1940, April-August
A.746	1934	A.755	1940, September (1)
A.747	1935	A.756	1940, September (2)
A.748	1936, January-May	A.757	1940, September (3)
A.749	1936, July-December	A.758	1940, October
A.750	1937, January-March	A.759	1941
A.751	1937, June-December	A.760	1942
A.752	1938	A.761	1945-47
A.753	1939	A.762	1948-52

A.763-
A.769

Maria Krebs (née Werth) (stepmother), 1902-77

Letters and cards from Krebs's stepmother, 1933-39, 1945-48. Many of the pre-war letters have postscripts by Krebs's father. The last pre-war letter from Maria, dated 17 August 1939, is addressed to Alice Garnett, a colleague of Krebs at Sheffield, and relates to Alice Garnett's proposed visit to Hildesheim.

7 folders.

A.763	1933-34	A.767	1939
A.764	1935-36	A.768	1945-46
A.765	1937	A.769	1947-48
A.766	1938		

Biographical and autobiographical

A.770- Gisela Krebs (half-sister), b.1932
A.776

Correspondence re Gisela Krebs, 1938-39.

The correspondence is explained by Lady Krebs in a note dated 5 January 1983:

'In 1938 - soon after our marriage - we became anxious for the safety of Gisela Krebs - Hans' young half-sister - aged about 7. I set about writing to Convents to see whether any could take the child, without fees, as a boarder and we would look after her in the holidays.

The rough copies in pencil are in my hand and Maria wrote some of them out to send.

We finally had a most helpful letter from N[otre] D[ame] Leeds where both mother and child were taken. But in the summer of '39 when they had gone to Germany to see the father they were caught by the war and had a very very difficult time.

My family were all Notre Dame Convent educated and Gisela is also a Catholic.'

A.770 Lady Krebs's note (quoted above); drafts of letters to the Bishop of Leeds, Catholic Womens University Federation Society, Sisters Superior.

A.771, Replies from Convents and others, December 1938.
A.772 2 folders.

A.773 Further draft letters to Sisters Superior; letter from Catholic Committee for Refugees from Germany, 17 January 1939.

A.774 Later correspondence re Maria and Gisela, 1939-41.

A.775 Correspondence re renewing contacts with Maria and Gisela Krebs after the war and Krebs's attempts to get permission for Gisela to come to England, 1945-47.

Includes ms. draft of long letter of family news in part written on back of University of Sheffield School of Dental Surgery Attendance Sheet (used 21-25 April 1945); correspondence with Home Office and Eleanor Rathbone MP; also later (1948) letter from E.F.W. Dux who had met Maria on a visit to Hildesheim and draft letter from Krebs re family (also 1948).

See also A.107, A.108.

A.776 Letter from Gisela Krebs, 1953.

Biographical and autobiographical

Margaret Krebs (née Fieldhouse) (wife), b.1913

- A.777,
A.778 Letters from Margaret Fieldhouse on a pre-wedding visit to Krebs's family in Germany, December 1937-January 1938.
- 2 folders.
- A.779,
A.780 Wedding congratulations, 1938.
- A.779 B - W A.780 Unidentified
- A.781 Miscellaneous personal items, 1938.
- A.782 Miscellaneous shorter family or domestic items, 1940s.
- A.783 Miscellaneous shorter family or domestic items, 1950s or n.d.
- A.784 Paul Stephen Krebs (son), b.1939
- Brief correspondence, 1962, 1975.
- A.785 Helen Margaret Krebs (later Lowell) (daughter), b.1942.
- Miscellaneous items, 1958, 1963, 1967 and n.d.
- A.786 John Richard Krebs (son), b.1945.
- Brief correspondence, 1956, 1961-62, 1972 and n.d.

Biographical and autobiographical

The Davidson family

The Davidson family was Krebs's mother's family.

A.787	<u>Arnold Davidson</u>	n.d.
	<u>Gertrud Davidson</u> (m. W.A. Rosenstein)	n.d., 1934, 1935
A.788	<u>Gertrud Ilse Davidson</u> (m. L.H. Cramer) (later <u>Geraldine Cramer</u>)	1941, 1943, 1945-46, 1950, 1952
A.789	<u>Helene Davidson</u> ('Talene') (m. W. Fuld)	1933
	<u>Kurt Adolph Davidson</u>	1966
A.790	<u>Reni Davidson</u>	1934
	<u>Siegfried Davidson</u>	1933, 1939, 1940
A.791	<u>Ursula Lück</u>	1966
	<u>Ilse Schragenheim</u>	1939-40

The Traube family

The physical chemist Isidor Traube was a cousin of Krebs's mother.

A.792	<u>Elli Trombetta Traube</u>	1970
	<u>Moritz Traube</u>	1948

For Isidor Traube and Sonya Boas-Traube see J.730-J.733.

Biographical and autobiographical

Other relatives

- A.793 D.H. Curtis 1968
- R. Sanders (formerly Rudi Zweig) 1958
- Sanders's aunt Ernestine was Krebs's grandfather's second wife.
- Ena Steiner (née Rosenthal) 1958
- Steiner's and Krebs's grandfathers were brothers.
- A.794,
A.795 Correspondence re Krebs family and namesakes, various dates,
 1962-80. .
- 2 folders.
- A.796 'Gott und Welt Albrecht Dürer Handzeichnungen aus dem
 Gebetbuche des Kaiser Maximilian mit der Besprechung von
 J.W.v. Goethe'.
- Copy forwarded to Krebs by Helmut Krebs, 1973.

Biographical and autobiographical

A.797- RESTITUTION CLAIMS

A.869

Comprehensive documentation re claims of the Krebs family for restitution from the German state after the Second World War. The correspondents are members of the Krebs family, lawyers (J. Loeb in Britain and F. Nülsen in Germany) and official agencies in Britain and Germany. See also A.739, A.768, A.769.

A.797,
A.798

Originals and photocopies of 1930s financial documents.

2 folders.

A.799-
A.855

A chronological sequence of correspondence and papers, 1946-79, including Krebs's ms. drafts and carbons. Many of these documents are in very poor condition.

1946

A.799

1947

A.800

1948

A.801

April, May

A.803

September-December

A.802

June-August

1949

A.804

June-August

A.805

September-December

1950

A.806

January-March

A.807

April-December

1951

A.808

May-June. Also included are some original letters of 1938.

A.809

July-October

A.810

November, December

1952

A.811

1953

A.812

January-June

A.813

July-November

1954

A.814

February-May

A.816

October-December

A.815

June-September

1955

A.817

January-March

A.819

September-December

A.818

April-July

1956

A.820

January-June

A.821

July-December

Biographical and autobiographical

<u>1957</u>	A.822	January, February	A.825	July
	A.823	March	A.826	August-October
	A.824	April-June	A.827	November, December
<u>1958</u>	A.828	January, February	A.831	October
	A.829	March-June	A.832	November, December
	A.830	July-September		
<u>1959</u>	A.833	January	A.836	June
	A.834	February, March	A.837	July
	A.835	April, May	A.838	August-December
<u>1960</u>	A.839	February-May	A.841	October-December
	A.840	August, September		
<u>1961</u>	A.842	January-April		
<u>1962</u>	A.843	February-April	A.844	June-September
<u>1964</u>	A.845	February-June	A.846	August-November
<u>1965</u>	A.847	January-March		
<u>1967</u>	A.848	January-April	A.849	July-December
<u>1968</u>	A.850	January-March	A.852	October-December
	A.851	June-September		
<u>1969</u>	A.853	January-March		
<u>1972, 1976, 1979</u>				
	A.854			
n.d.	A.855			

Biographical and autobiographical

A.856- A second sequence of documentation sent to Krebs by Loeb's secretary
A.869 after the lawyer's death in 1979. See A.854 above.

A.856	1950, 1955	A.863	1956, April (3)
A.857	1956, January	A.864	1956, April (4)
A.858	1956, February	A.865	1956, April (5)
A.859	1956, March (1)	A.866	1956, May
A.860	1956, March (2)	A.867	1956, July, August
A.861	1956, April (1)	A.868	1957
A.862	1956, April (2)	A.869	Press-cuttings

Biographical and autobiographical

A.870-
A.887 GENEALOGY

A.870 Correspondence with Mrs. G. Neuberg, principally about genealogical matters, 1969-70, 1977.

Mrs. Neuberg was a distant relative of the German biochemist, C. Neuberg.

A.871 -
A.875 Correspondence with James H. Heineman about genealogical matters, 1977-80, including copies or extracts of Heineman's correspondence with other relatives especially Krebs's first cousin, Kurt Davidson. Krebs's mother was a first cousin of Heineman's maternal grandmother.

A.871 1977, March-June A.873 1978, February, March

A.872 1977, July-December A.874 1978, June-October

A.875 1979, 1980

Genealogical material sent to Krebs by Heineman

A.876 Genealogy of the descendants of David Moses Davidson, d.1794, with index.

Krebs appears on p.8 of the genealogy.

A.877 Photocopies of the Hanover City Directory for 1890 and 1899.

A.878 Photocopy of 'Der alte jüdische Friedhof in Hannover', by Margret Wahl (76 pp.).

A.879,
A.880 Photocopies of documents re the Schiff family of Charlotte, North Carolina.

2 folders.

A.881 -
A.883 Photographs of the Schiff family.

3 folders.

A.884,
A.885 Miscellaneous genealogical material.

2 folders.

A.886,
A.887 Information re Minna-James-Heineman-Stiftung.

2 folders.

Biographical and autobiographical

A.888-A.924 HILDESHEIM (City and school)

A general sequence of correspondence and papers, 1965-79. For Krebs's school, the Gymnasium Andreanum, see A.907-A.924.

A.888 1965

A.889-
A.898 Conferral of 'Ehrenbürger' status on Krebs, 1966.

A.889 Correspondence with Oberstadtdirektor Kampf and others re arrangements for ceremony.

A.890,
A.891 Letters of congratulation, correspondence with other members of family re conferral of the honour. A.890 includes photocopy of Krebs's letter to his sister explaining why he was prepared to accept the award.

2 folders.

A.892,
A.893 Letters of congratulation written to Krebs's stepmother and forwarded to him by her. Maria Krebs's covering letter identifies the correspondents.

2 folders.

A.894 Printed booklet with text of speech of Bürgermeister Boyken on the occasion of the conferral of the 'Ehrenbürgerrecht' and Krebs's speech of thanks.

A.895 Ms. draft of Krebs's speech of thanks; ms. note on 'Ehrenbürger Hildesheim' and typescript note entitled 'Trennung und Wiedervereinigung'.

A.896 Press-cuttings.

A.897,
A.898 Printed material re Hildesheim.

A.899 1968

Correspondence re visit of party of girls from the Hildesheim High School to Krebs's laboratory.

A.900 1969-71, 1978-79

Miscellaneous correspondence with Stadtarchivdirektor, H. von Jan. Includes text of von Jan's 1978 lecture on the rise of Nazism and the persecution of the Jews with some reference to the fate of individual Hildesheim Jews.

Biographical and autobiographical

- A.901 1970
Includes letter from R. Liecke with memories of Krebs's father.
- A.902 1971
Includes correspondence re visit of schoolgirls to Krebs's laboratory and 5pp. typescript re old Jewish cemeteries.
- A.903 1972
'Beziehungen zu einer Stadt'
Article by Krebs for a Hildesheim number of the journal Merian.
(Not listed in Bibliog.)
Heavily corrected draft and related correspondence.
- A.904 1973-74
Includes material re visit of students of the Pädagogische Hochschule to Oxford and invitation for Krebs to lecture to Lions Club Hildesheim-Rose (declined).
- A.905 1975
re Krebs's 75th birthday.
- A.906 1978-79, n.d.

Gymnasium Andreanum Hildesheim

- A.907 Correspondence with M. Boyken, Oberstudiendirektor, 1967, 1970, 1974-75.
Folder also includes 1967 note on Didrik Pining, former pupil of the Andreanum and 'Amerikafahrer vor Columbus'.
- A.908 Correspondence with R. Thomasius, Boyken's successor as Oberstudiendirektor, re the school's 750th Anniversary Celebration in 1975. See also A.332.
Krebs was invited to make a contribution to a published 'Festschrift'. He also delivered the 'Festvortrag' on 29 November 1975.
- A.909,
A.910 'Non scholae sed vitae discimus'
Ms. and typescript drafts of Krebs's contribution to the Festschrift; brief correspondence.
2 folders.

Biographical and autobiographical

- A.911 '750 Jahre Andreanum'
Printed copy of Festschrift with R. Thomasius on 'Professor Sir Hans Adolf Krebs' and Krebs's own contribution 'Non scholae sed vitae discimus'. (Not listed in Bibliog.)
- A.912-
A.916 'Festrede zur Feier des 750 jährigen Bestehens des Gymnasium Andreanum, 29th November 1975' (Bibliog. 354).

Ms. and typescript drafts (with letter commenting on Krebs's German); printed background material re vandalism, juvenile delinquency and crime and punishment in GDR.

5 folders.
- A.917 Programmes of the 'Festveranstaltung'; press-cutting re 750th anniversary.
- A.918-
A.920 Correspondence with R. Thomasius, 1977-82, re news of the school, miscellaneous invitations, visit of pupils to Oxford, etc.
- A.918 1977
Folder also includes correspondence with German embassy re J.G. Lohmeyer, Rector of the Gymnasium Andreanum, 1650-75.
- A.919 1978
- A.920 1979-82.
- Printed and duplicated background material.
- A.921 Annual report, 1966/67.
- A.922 Annual report, 1978.
- A.923 Annual report, 1980, incorporating 'Laudatio für Herrn Prof. Sir Hans-Adolf Krebs' on the occasion of his honorary degree at Göttingen in May. See also A.659, A.660.
- A.923A Annual report, 1984, with photograph of the award of the 'Hans-Adolf-Krebs-Preis' for 1983.
- A.924 Miscellaneous.

Biographical and autobiographical

A.925-A.966 MISCELLANEOUS BIOGRAPHICAL ITEMS

Miscellaneous items presented in a chronological sequence.

- A.925 'Radfahrkarte', 17 April 1915.
- A.926 Address book, in use early 1930s, with lists of recipients of outgoing letters and reprints, 1930 and 1931.
- A.927 'Aids to Good English', Cambridge, 1933.
Annotated by Krebs.
- A.928 'Arrows', December 1937 (Sheffield University Students Union publication).
Includes review of play in which Krebs acted.
- A.929 Duplicated typescript copy of 'The Happy Journey', by Thornton Wilder; letter from 'Kate Kirby' to 'little Arthur', n.d.
Krebs played little Arthur; Alice Garnett (q.v.) was Kate Kirby.
- A.930 Hotel bills, France (1937) and Italy (n.d.).
- A.931 Documents re German refugee organisations, March and November 1938.
Leaflet on Goering printed by the Anti-Hitler Information Bureau, n.d.
- A.932 Meticulous ms. records of food grown by Krebs (and eggs laid by his hens) as contribution to wartime digging-for-victory campaign, with ms. copy of Krebs's letter to the owner of the land he was using, 1 May 1941; also 'Egg chart', January 1947-January 1950.
- A.933 Duplicated circular from The 1941 Committee, 14 January 1942.
- A.934 Reprint from English Studies, with covering letter from G. Bullough, 1942.
The reprint is the edited text of a letter from Mary Butler written shortly after the death of her brother, Samuel, printed 'by the kind permission of the owner ... and of Professor and Mrs. Krebs'.
- A.935 Documents re City of Sheffield Victory Ball, 1945.
- A.936 'Science and Victory. The Contribution of the Refugees', 1946 (pamphlet).

Biographical and autobiographical

- A.937 Card with Krebs's National Insurance number, postmarked 26 April 1948.
Ration Book, 1953-54.
- A.938 Miscellaneous items, 1960s, 1970s.
- A.939 Miscellaneous items, 1980s and n.d.

Miscellaneous items presented by topic

Appeals and Charities

- A.940 General, various dates 1966-80, n.d.
- A.941 - Appeals re Russian scientists, 1969-81.
A.943 3 folders.

Autographs

- A.944 - Letters requesting Krebs's autograph, signed photograph or samples of his
A.947 work (draft papers, etc.) from a folder inscribed 'Autographs requested and despatched'.
4 folders.
- A.948, 'Manuscripts for collectors!' (Inscription on original folder not preserved).
A.949 Pages torn from jotters and typescript drafts with ms. additions and corrections, set aside by Krebs for collectors. Some dated 1969-72. Includes draft paper on the role of equilibria in the regulation of metabolism.
2 folders.

Finances

- A.950 - Miscellaneous material re income, expenditure, taxation, insurance, etc.
A.953 4 folders.

A.950	1929-33	A.952	1950-54
A.951	1934-47	A.953	1978

Biographical and autobiographical

Garden

- A.954 Correspondence and papers re plants for Krebs's garden, 1958-64, 1978, 1981.
1961-62 papers re Gingko biloba seeds are accompanied by a ms. note by Lady Krebs, 1982.

Health

- A.955 Miscellaneous material, various dates, 1964-81.

Humour

- A.956-
A.958 Miscellaneous items of biochemical or personal interest including many variations on the Krebs cycle theme, various dates, mid 1930s-1980.
3 folders.

Legal and court cases

- A.959 1976, 1978

Marmalade

- A.960 Copy of Rostrum (publication of Pfizer Limited, 1981) with article by Jocelyn Thomson on Krebs's marmalade-making.
Correspondence re marmalade, 1967, 1978.

Photographs and portraits

- A.961-
A.963 Miscellaneous correspondence re photographs and portraits of Krebs, 1961-81; also (in A.963) list of 'Contributors to Portrait Gift' with ms. note by Lady Krebs.
3 folders.

Biographical and autobiographical

Social Invitations

- A.964- Correspondence, invitation cards, menus, etc. re miscellaneous
A.966 invitations, principally social, mid 1930s-1980.
3 folders.

A.967-A.1062 PERSONAL CORRESPONDENCE

By name

N.B. These are sequences of letters to Krebs, predominantly of the 1930s. There are no letters from Krebs until the 1950s.

- A.967- Auerbach (later Auburn) W. (fellow refugee) 1932-56
A.972 Auerbach and Krebs were colleagues at Hamburg-Altona and became lifelong friends. Auerbach came to Britain as a refugee, moving to New Zealand after the war (Rem. & Refl., p.44).

Six folders.

A.967 1932

A.968 1934

A.969 1935

A.970 1936

A.971 1937

A.972 1945, 1947, 1956

1956 letter is Krebs's account of recent visit to Hamburg, his first since 1932, with news of Olga Guyot 'throughout the Nazi period ... a courageous centre of subversive activities' and of his contacts with survivors of the 1930-31 generation at Altona, especially the nurses. The letter is accompanied by Lady Krebs's ms. note, n.d. [? 1982].

Biographical and autobiographical

- A.973 Baumgarten, (patient) 1933-37
Folder includes envelope postmarked 25.1.34. with Krebs's chemical notations.
- A.974- Burchardt, I. (fellow refugee) 1934-37, 1940, 1946
A.977
Four folders.
- A.974 1934 A.976 1936-37
A.975 1935 A.977 1940, 1946
- A.978 Daube, D. (fellow refugee) 1935, 1936, 1956
Three letters only, with attached description by Krebs 'David Daube, known to me since 1933 in Cambridge. Later Regius Professor of Civil Law at Oxford'.
- A.979 'Fridolin' (F. Böhning) 1931, 1933
Fridolin was a woman paediatrician, first in Leipzig, then in Jena, and an old university friend of Krebs (from Freiburg).
- A.980- Garnett, Alice 1936-39
A.985
Almost all the letters and messages (many left in Krebs's pigeon-hole at Sheffield) are undated.
Six folders.
- A.986, Goldschmidt, Hannah (fellow refugee) 1933-38
A.987
2 folders.
- A.986 1934-35 A.987 1936, 1938
- A.988- Gütle, Helene 1933-37
A.990
Helene Gütle was a former patient of Krebs who worked as a social worker in Offenburg in South Germany.
Three folders.
- A.988 1933 A.990 1935-37
A.989 1934

Biographical and autobiographical

A.991- A.1000	Holsten, Katherina (Katinka)	1932-37, n.d.
	She appears to have been a nurse whom Krebs met in the Altona hospital. She was apparently Krebs's girlfriend for a long time and visited him several times in England.	
	10 folders.	
	A.991 1932	A.996 1935, January-June
	A.992 1933	A.997 1935, July-December
	A.993 1934, January-June	A.998 1936, January-June
	A.994 1934, July-September	A.999 1936, July-October
	A.995 1934, October-December	A.1000 1937 (one letter only), n.d.
A.1001	Köstlin, Annemarie	1977-82
A.1002	Lane, Patricia S.	1975-76
A.1003- A.1007	Lindahl, Irmgard (fellow refugee)	1920, 1933-38, 1946, 1948, 1952
	Irmgard came to England in the mid 1930s before finding a permanent home in Sweden. The two letters of 1920 are incomplete and unsigned but were found with the rest of the correspondence.	
	Five folders.	
	A.1003 1920, 1933	A.1006 1936-38
	A.1004 1934	A.1007 1946, 1948, 1952
	A.1005 1935	
A.1008	Roughton, Alice	1936-37, 1944
A.1009	Steinberg, F.W.	1960, 1967, 1971
A.1010	Tošić, J.	1947, 1957-58
A.1011	Wayne, Nan (later Lady Wayne)	1936-37, 1954

Biographical and autobiographical

- A.1012, Wolffenstein, E. (fellow refugee) 1939-50
A.1013 Wolffenstein apparently arrived in England as late as April 1939.
He was interned at the outbreak of the war but eventually found a
post at a Jewish hospital in Leeds.
2 folders..
A.1012 1939-41 A.1013 1945-46, 1950

By year

Brief exchanges or single letters arranged in a chronological sequence by year. 1930s correspondence includes letters from individuals in Germany seeking help and advice on emigration and from Krebs's fellow refugees in Britain.

- A.1014 1918, 1919. Cards and letter from piano teacher, landlady, colleague and others.
- A.1015 1920. Cards, letters, bills from the Ringwalds (Krebs's landlord and landlady in Freiburg).
- A.1016 1920-22. Letters from P. Hoffman, medical student in Hamburg.
- A.1017 1923, 1925
- A.1018 1931, 1932
- A.1019-A.1021 1933 Three folders
- A.1019 January-May. Cards, letters, etc. addressed to Krebs in Freiburg.
- A.1020 June-August A.1021 September-November and n.d.

Biographical and autobiographical

A.1022-A.1027	1934	Six folders		
	A.1022	January	A.1025	June, July
	A.1023	February, March	A.1026	August, September
	A.1024	April, May	A.1027	October-December and n.d.
A.1028-A.1031	1935	Four folders		
	A.1028	January-March	A.1030	July, August
	A.1029	May, June	A.1031	October-December
A.1032-A.1034	1936	Three folders		
	A.1032	January-March	A.1034	September-December
	A.1033	May-July		
A.1035	1937		A.1041	n.d. (1940s)
A.1036	1938		A.1042	1950-54, 1958
A.1037	1939		A.1043	1956
A.1038	n.d. (1930s)		A.1044	1960s
A.1039	1941-46		A.1045	1970s
A.1040	1948-49		A.1046	1980-81 and n.d.

Biographical and autobiographical

Shorter personal (unindexed)

- A.1047 Carbons of Krebs's letters of greeting and congratulation to colleagues, 1973-79.
- A.1048, Replies to letters of congratulation sent by Krebs to colleagues on their
A.1049 election to Fellowship of the Royal Society.
- A.1048 1936, 1966-75 A.1049 1976-81 and n.d.
- A.1050, Replies to letters of congratulation from Krebs (general)
A.1051
- A.1050 1956-68 A.1051 1969-81 and n.d.
- A.1052 Replies to letters of condolence from Krebs, 1967, 1974-79.
- A.1053, Miscellaneous letters of thanks received by Krebs.
A.1054
- A.1053 1950-69 A.1054 1971-80 and n.d.
- A.1055 Miscellaneous letters of complaint from Krebs, 1970-81.
- A.1056, Requests for Krebs's views on general topics.
A.1057
- A.1056 1968-73 A.1057 1977-79 and n.d.
- A.1058 Mark Twain Society, 1967-76.
 Includes examples of the Mark Twain Journal.
- A.1059 Christmas cards.
- A.1060 Posthumous.
- A.1061, A collection of empty envelopes (most with 1930s postmarks) kept together
A.1061A by Krebs.
 2 folders.
- A.1062 Miscellaneous German postcards, 1930s or earlier.

Biographical and autobiographical

A.1063-A.1083 SHORTER AUTOBIOGRAPHICAL WRITINGS

- A.1063 'Survey of Research Work'
12pp. typescript, n.d., but latest publications mentioned relate to wartime nutrition work.
- A.1064 Shorter autobiographical writings, n.d.
3 items (one for Royal Society, ?1947).
- A.1065, Autobiographical notes for Who's Who and other reference works,
A.1066 1953-76.
Two folders.
- A.1067, 'Notes for RS Obituary'
A.1068
A.1067 Ms. notes on pages torn from jotter re arrival in England, Cambridge, 'My discoveries', etc., 1961 and 1962.
A.1068 Typescript notes with ms. additions and corrections re family and early days, 1961; also circular from Royal Society re personal records of Fellows, 1965.
- A.1069 'Record of Research'
21pp. typescript with ms. corrections and additions, variously dated 1963-67.
- A.1070 'Ten most important papers' (1p. typescript) and list of publications (to 1980), found with 'Record of Research' above.
- A.1071 Exercise book with 'Account of Research re R.S.' and 'Review and Summary of Publications arranged according to subject matter', various dates 1964-67.
Exercise book was also used for notes on Franks Commission on Oxford. There are loose items including press-cutting (1968) on the state of the universities.

Biographical and autobiographical

- A.1072 'Creativity'
24pp. typescript, with 2 intercalated pages on 'Who makes discoveries?'.
The typescript comprises Krebs's replies to the interview questions of psychologist C.J. Meyers researching the creativity of scientists, 1964.
The folder also contains the list of questions, a further 13pp. typescript of general remarks on creativity, and related correspondence, 1964-69, 1974.
- A.1073 Autobiographical notes for Sheffield symposium and visit to Germany, 1980.
- A.1074-
A.1083 'Wie ich aus Deutschland vertrieben wurde. Dokumente mit Kommentaren',
Medizinhistorisches Journal 15, 1980. (Bibliog. 382).
10 folders.
- A.1074 Publications correspondence, 1979-81.
- A.1075-A.1077 Typescript drafts and ms. notes. 3 folders.
- A.1078, A.1079 Photocopies of original documents. 2 folders.
- A.1080 Reprint of Bibliog. 382.
- A.1081 Correspondence re publication of English translation in Minerva,
1981-82. (Not listed in Bibliog.)
- A.1082, A.1083 Draft translation for Minerva. 2 folders.

Biographical and autobiographical

A.1084-A.1278 REMINISCENCES AND REFLECTIONS (Bibliog. 391).

A.1084-A.1103	Complete or extended drafts.
A.1104-A.1233	Drafts by chapter.
A.1234-A.1259	Notes and ideas
A.1260-A.1266	Jotters
A.1267-A.1276	Correspondence
A.1277	Reviews
A.1278	Background material.

After twenty years gestation Krebs's autobiography Reminiscences and Reflections (in collaboration with Anne Martin) was published by the Clarendon Press Oxford in 1981. Krebs was able to see a copy of the published work during his last illness.

Krebs's thinking on the writing of autobiographies in general and his own in particular can be gleaned from the Preface as published and the various drafts for the preface which he essayed over the years, the earliest being dated in January 1968 (A.1104-A.1106). It appears that it was the invitation in 1960 from the Biochemical Society to deliver the Annual Lecture in memory of Sir Frederick Gowland Hopkins which initiated the autobiographical reflection and writing culminating in the publication of Reminiscences and Reflections. In his lecture Krebs included a final section of personal recollections which was very well received by his audience and the readers of the published version, who encouraged him to write more extensively about his experiences. See H.150 for draft of the lecture.

A further spur to Krebs's thinking in this direction was a request from the Royal Society (made to every Fellow) to supply biographical material for later use by his memorialist, and he appears to have been assembling material and drafting autobiographical notes for this purpose during the early and mid 1960s. (See e.g. A.1067, A.1068, A.1071).

Biographical and autobiographical

It seems likely also that further recollections were encouraged by the 'Thank-You Britain' Fund appeal (organised by former refugees) which was going forward at about the same time. (See G.233-G.238.)

Krebs's retirement from his Oxford Chair in 1967 seems to have coincided with approaches for autobiographical accounts from one or more Italian publishers and it is in this connection that the title 'Reminiscences and Reflections' first appears (see A.1084). Colleagues who were shown Krebs's English drafts encouraged him to write at greater length about his life but Krebs's response was to put together for publication a collection of documents from his files - 'those that had been important in influencing the course of my professional life and those that reflected more personal aspects, such as letters, announcements, and published articles' (Rem. & Refl., v). For examples of drafts from this period which are essentially compilations of documents with Krebs's comments see A.1086-A.1091. It was material of this sort with which Krebs approached the Oxford University Press in 1969. Krebs notes in the Preface to the published autobiography that he had always retained documents. At some point (perhaps in the 1960s) he had compiled two scrapbooks (now at A.27, A.28) entitled 'Documents from the Life of a Scientist' I and II, containing some of the most important surviving records of his career and honours. It is highly probable that these compilations were intended to serve instead of an autobiography; indeed, there is a striking correspondence between the drafts at A.1086-A.1091 and the scrapbook at A.27 which deals with Krebs's early career.

When Krebs showed his autobiographical material to the Oxford University Press, they requested a considerable expansion to provide a fuller account of his personal life. Initially, Krebs had reservations about this request, thinking 'that the documents would speak for themselves, illustrating how the social and political history of the times was reflected in the career of an individual scientist. Among other things they showed how the recognition of research expresses itself, how the rise of Nazism temporarily upset my career, and how British scientists and the Rockefeller Foundation came to my rescue; and how, later on, I became involved in wider issues'. Nevertheless, with the encouragement of friends and colleagues, he acceded to the request of the Press and undertook to write a full-scale autobiography.

The surviving material is very extensive, and the succession of heavily-revised drafts, some dated as late as 1980, suggest that Krebs did not find the task an easy one.

Biographical and autobiographical

He sought the advice of colleagues and friends, including Catherine Weber, whose husband George was the organiser of the Indianapolis Symposia on advances in enzyme regulation which Krebs attended almost annually 1962-77. However, the decisive step in producing a publishable text seems to have been the appointment of A.V. Martin as Krebs's secretary in 1978. Mrs. Martin took on the role of collaborator, and in the extensive redrafting which was then undertaken and in the surviving exchanges of correspondence, Krebs's respect for her ability and judgment is manifest. Of particular interest in this regard is the draft 'AVM copy 1977' which appears to be the draft as prepared by Krebs before Mrs. Martin's appointment and which bears her first (extensive) revisions. This draft, which ends with the award of the Nobel Prize in 1953, represents Krebs's original intention to end his autobiography at this point. However, he was encouraged to extend it by others, including his collaborator, who bore the principal responsibility for preparing the later chapters, especially the important 'Oxford' chapter.

Biographical and autobiographical

Complete or extended drafts

- A.1084 'Reminiscences and Reflections', 1968.
43pp. typescript draft for Edizioni Scientifiche e Tecniche Mondadori.
- A.1085 'Italian Biography. 30 June 1968 Required'
Contents of a folder so inscribed.
Krebs's ms. and typescript notes.
- A.1086,
A.1087 Typescript draft, with ms. additions and corrections, of Krebs's expansion
of his earlier historical account of the work for which he was awarded
the Nobel Prize written for Italian publishing firm, Fratelli Fabbri,
1968. This draft took the form of documents respecting Krebs's early
scientific career, with comments.

2 folders.
- A.1088 'Autobiographical'
Contents of a folder so inscribed, 1968 or later.
Typescript draft of autobiographical account, in the form of documents
with comments.
- A.1089 Typescript draft of autobiographical account, in the form of documents
and comments; also ms. notes.
- A.1090,
A.1091 'Reminiscences and Reflections'
'First draft' of Krebs's autobiography, 1968, 'with comments from
publisher'.

2 folders.
- A.1092 'Documents for appendix of autobiography'
Contents of a folder so inscribed.
Photocopies, ms. and typescript notes.

Biographical and autobiographical

- A.1093-
A.1095 'Early draft (1973/4). Superseded by 1976 version'
3 folders.
- A.1096-
A.1098 'From the Life of a Scientist. Reminiscences and Reflections'
[?1976 draft].
Preface and 10 chapters taking narrative to 1935.
3 folders.
- 1099-
1103 'Autobiography 1979 Version'
Preface and eight chapters taking narrative to 1935.
5 folders.

Drafts by chapter

- A.1104-
A.1106 Preface
A.1104 Drafts, 1968-75.
A.1105 Drafts, 1976-79, and n.d.
A.1106 Printed background material.
- A.1107-
A.1117 Chapter 1 'Beginnings (1900-1918)'
A.1107 Drafts, 1973-76.
A.1108, A.1109 Drafts, 1977 (2 folders).
A.1110, A.1111 Drafts, 1978, with ms. comment by F.L. Holmes and
redrafting by A.V. Martin (2 folders).
A.1112, A.1113 Drafts, 1979, with redrafting by A.V. Martin
(2 folders).
A.1114, A.1115 Drafts, n.d. (2 folders)
A.1114 includes draft annotated in red by Catherine
Weber (wife of G. Weber, Indianapolis).
A.1116, A.1117 Background material (2 folders).

Biographical and autobiographical

- A.1118-
A.1122 Chapter 2 'University (1919-1925)'
- A.1118 Early drafts including 1961 typescript with extensive ms. additions and corrections.
- A.1119 Drafts, 1976-77. Includes 'AVM copy 1977' with annotation by C. Weber and redrafting by A.V. Martin.
- A.1120-A.1122 Drafts, 1978-79, with redrafting by A.V. Martin (3 folders).
-
- A.1123-
A.1130 Chapter 3 'In the laboratory of Otto Warburg (1926-1930)'
- A.1123 Early drafts, ? 1957, 1961, 1963, 1967
- A.1124 Drafts, 1972-73, 1975-77
- A.1125, A.1126 Draft, 1979, with redrafting by A.V. Martin. Incorporates earlier draft annotated by C. Weber (2 folders).
- A.1127 Draft, n.d. but incorporates 1p. dated 1975.
- A.1128 Background material.
- A.1129, A.1130 Draft of original chapter 3 'Otto Warburg - an appreciation' omitted from published autobiography but largely drawn from Krebs's earlier published work on Warburg (2 folders).
-
- A.1131-
A.1136 Chapter 4 'Altona and Freiburg (1930-1933)'
- Chapter 4 as published incorporates draft chapter 5 'Departure from Warburg' and draft chapter 6 'Freiburg im Breisgau 1931-1933'.
- A.1131 Early drafts, 1961.
- A.1132 Drafts, 1973.
- A.1133 Drafts, ? 1975-76.
- A.1134, A.1135 'AVM copy 1977'. Draft annotated by C. Weber and revised by A.V. Martin (2 folders).
- A.1136 Miscellaneous shorter drafts, 1977, 1979, n.d.

Biographical and autobiographical

- A.1137-
A.1144 Chapter 5 'The Discovery of the Ornithine Cycle of Urea Synthesis (1932)'
- A.1137 Early drafts, 1961, 1963.
- A.1138 Ms. notes from jotter and entitled 'First Draft of History of Ornithine Cycle', December 1971.
- A.1139 Typescript draft of lecture on the discovery of the ornithine cycle, given at Valencia, 1975.
- A.1140-A.1142 Drafts, n.d. (3 folders).
- A.1143 Miscellaneous shorter drafts, various dates, 1972-78.
- A.1144 Background material.
-
- A.1145-
A.1152 Chapter 6 'Hitler's Seizure of Power'
- A.1145 Early drafts, 1961, 1963.
- A.1146 Drafts, 1973.
- A.1147 33pp. typescript draft, with ms. corrections and additions by Krebs. 1p. dated in 1976.
- A.1148, A.1149 'AVM copy 1977'. Typescript draft with slight ms. correction by C. Weber and substantial revision by A.V. Martin (2 folders).
- A.1150 Miscellaneous shorter drafts, 1978-79, n.d.
- A.1151 Correspondence 1968, 1975 and printed background material re Heidegger (see Rem. & Refl., pp.70-72).
- A.1152 Miscellaneous background material.
-
- A.1153-
A.1157 Chapter 7 'Cambridge (1933-1935)'
- Chapter 7 as published incorporates draft chapter 9 'Arrival in England, 1933' and draft chapter 10 'Cambridge 1933-1935'.
- A.1153 Early drafts, 1961, 1963, with later ms. additions and corrections and retyping.
- A.1154 Miscellaneous shorter drafts, 1970-76.

Biographical and autobiographical

- A.1155, A.1156 'AVM copy 1977'. Draft annotated by C. Weber and revised by A.V. Martin (2 folders).
- A.1157 Drafts, 1978-79, n.d.
- A.1158-
A.1162 Chapter 8 'Settling at Sheffield (1936)'
- A.1158 Drafts, 1963, 1967.
- A.1159 Drafts, 1973.
- A.1160 'Early draft superseded', n.d. c.1976.
- A.1161 'AVM copy 1977. Copy seen by Catherine Weber'.
- A.1162 Miscellaneous shorter drafts, 1976-79.
- A.1163-
A.1166 Chapter 9 'The History of the Discovery of the Citric Acid Cycle (1936-1937)'
- A.1163 Draft consisting almost entirely of pasted-up pages of Bibliog 293 (1970).
- A.1164 Draft, 1979.
- A.1165 Miscellaneous shorter drafts, various dates 1964-77.
- A.1166 Background material.
Correspondence with G. Rattray Taylor re the development of the idea of metabolic cycles, 1961.
Reprint of Bibliog. 293.
Note of 'discussions with F.L. Holmes on early work related to the TCA cycle', 1977.
- A.1167-
A.1171 Chapter 10 'The War Years (1939-1945)'
- A.1167 Draft, 1973 'Copy seen by Margaret [Krebs]'.
- A.1168 'AVM copy 1977 draft'.
- A.1169 Miscellaneous shorter drafts, various dates 1963-79.

Continued

Biographical and autobiographical

- | | |
|-------------------|---|
| A.1170 | Printed background material including reprints of <u>Bibliog.</u> 93 and 102. |
| A.1171 | Correspondence with H. Garling (former Sorby Research Institute volunteer) <u>re</u> Sorby reunion, 1977. |
| A.1172,
A.1173 | <u>Chapter 11 'The History of the Discovery of Carbon Dioxide Fixation in Animal Tissues'</u> |
| A.1172 | Drafts, 1976, 1977. |
| A.1173 | Draft, 1979; reprint of <u>Bibliog.</u> 335. |
| A.1174-
A.1182 | <u>Chapter 12 'The Medical Research Council Unit (1944 - 1967)'</u> |
| A.1174 | Draft, 1976. |
| A.1175 | 'AVM copy 1977'. |
| A.1176 | Drafts, 1978-79. |
| A.1177 | Miscellaneous shorter drafts, 1970-75. |
| A.1178 | Miscellaneous shorter drafts, n.d. |
| A.1179-A.1182 | Background material including lists of team members, visitors, co-authors of papers with Krebs, some in the hand of L.V. Eggleston; also example of letter heading with printing error 'Unfit for Research in Cell Metabolism' (4 folders). |
| A.1183-
A.1187 | <u>Chapter 13 'Re-establishing Contacts with Germany (1945-49)'</u>
The correspondence and papers now at A.449-A.468 were found with the drafts for this chapter. |
| A.1183 | Drafts, 1976. |
| A.1184 | 'AVM copy 1977'. |
| A.1185 | Draft, 1979. |
| A.1186 | Miscellaneous shorter drafts, 1962, 1971, 1973. |
| A.1187 | Miscellaneous shorter drafts, n.d. |

Biographical and autobiographical

- A.1188-
A.1191 Chapter 14 'Final Formulation of the Citric Acid Cycle'
- A.1188 Draft, 1979; photocopies of 1948 correspondence with A.G. Ogston.
- A.1189 Draft, n.d.
- A.1190 Ms. notes.
- A.1191 Printed background material.
-
- A.1192-
A.1195 Chapter 15 'The Nobel Prize'
- Chapter 15 as published incorporates draft chapter 16 'Nobel Prize' and draft chapter 17 'Stockholm'.
- A.1192 Drafts, 1973.
- A.1193 Drafts, 1976. Annotated by B. Wilcock of the Oxford University Press.
- A.1194 'AVM copy 1977'.
- A.1195 Miscellaneous shorter drafts.
-
- A.1196-
A.1199 Chapter 16 'Academic Invitations (1946-1954)'
- It seems that for a time Krebs had intended to cover this period with two chapters, 'Academic Events 1946-1953' and 'Invitation to Oxford'.
- A.1196, A.1197 Drafts, 1979 (2 folders).
- A.1198 Draft, n.d.
- A.1199 Miscellaneous shorter drafts.

Biographical and autobiographical

A.1200-
A.1220

Chapter 17 'Oxford (1954-1967)'

Much of the material now in section C on the development of Oxford Science and Oxford Reform was found with the drafts for this chapter.

'Ch.20 [later renumbered 17] Oxford early drafts etc.'

Contents of a bulky folder so inscribed, now divided into 11, for ease of reference.

A.1200 Drafts, 1970, 1973.

A.1201 Drafts, 1974.

A.1202 Drafts, 1979.

A.1203-A.1205 Drafts, 1980 (3 folders).

A.1206 Drafts, n.d.

A.1207-A.1210 Background material including copies of Krebs's 1961 articles for Oxford Magazine on salaries, G.E.F. Chilver's article for the same on demonstrators, colleges and professors, extracts from University Registry files re D.D. Woods and correspondence with University Offices, 1980 (4 folders).

'Ch.20 - Oxford. Final draft and material for notes'

Contents of a folder so inscribed, divided into four for ease of reference.

A.1211 'Final draft 20.2.80', pp.1-19.

A.1212 pp.19A-27.

A.1213, A.1214 Miscellaneous notes and drafts (2 folders).

Miscellaneous shorter drafts

A.1215 1964, 1966-67 A.1218 1976, 1978-79

A.1216 1970-71 A.1219 1980

A.1217 1973-74 A.1220 n.d.

Biographical and autobiographical

A.1221 -
A.1223

Chapter 18 'Retirement'

- A.1221 Draft, 1980.
- A.1222 Miscellaneous shorter drafts, 1968, 1973.
- A.1223 Miscellaneous shorter drafts, 1980, including draft of Krebs's concluding remarks for symposium held in his honour at Dallas.

A.1224

Chapter 19 'Envoi'

Drafts, 1970, 1980.

A.1225 -
A.1227

'Notes'. In page order of book and unidentified. Some containing material not used in published version.

3 folders.

A.1228,
A.1229

Note on family

Drafts, 1970, 1978, 1980 and n.d.

2 folders.

A.1230

Note on honours

Drafts and background material.

A.1231

'People in the Book'

Krebs's lists of people to be referred to in book.

Ms. and typescript notes on individuals: Heisenberg, Henseleit ('Encounter with Rosa Henseleit 25th June, 1978'), Kuhn, Lipmann, Loeb (with original of his note referring to the 'good marriage' between Krebs and Beeson at the Radcliffe Infirmary, reproduced in Rem. & Refl., p.226), Löffler, Mendel and Pohl; also note on 'Nobel families'.

A.1232

References.

Biographical and autobiographical

A.1233 Figures for book

Original and photocopy for figure 2 ('Wider den undeutschen Geist'), original and photocopy for figure 3 ('Ein Kapitel "Treue"'), photocopy for figure 4 (1937 Nature letter), original for figure 5 ('An Appeal for ... Britons').

The original of the 1937 Nature letter is retained by J.R. Krebs.

Notes and ideas

A.1234,
A.1235

Typescript and ms. notes (kept together by Krebs) on scientific attitudes, various dates 1965-78.

2 folders.

A.1236

'Misc. handwritten notes - query if to be used'

Contents of a folder so inscribed.

Includes notes dated in 1967 and 1973; most undated.

A.1237

Correspondence, ms. and typescript notes, etc. re historical development and organisation of chemical laboratories in general and Liebig's laboratory at Giessen in particular, 1970. See Rem. & Refl., p.137.

A.1238

Typescript notes on academic polemics, 1970, 1978.

A.1239

Ms. and typescript notes on team work, various dates 1972-75.

Folder includes photocopy of letter from D.J. Weatherall to P.J. Randle, 3 November 1975.

Biographical and autobiographical

- A.1240 Typescript notes (kept together by Krebs) on medical and scientific aphorisms, autograph hunters, brighter biochemistry, criticisms of research achievements, 1972-79.
- A.1241 Typescript notes on leadership, especially the headship of a university department, various dates, 1973-80.
- A.1242-
A.1255 Miscellaneous notes arranged chronologically by year.
Many of these notes, some quite extensive, contain interesting reflections on how to do research, changes in science during Krebs's lifetime, scientific colleagues including Martius and Warburg as well as Krebs's self-analysis of his own character.
14 folders.
- | | | | |
|--------|---------------|--------|----------|
| A.1242 | 1960, 1963-64 | A.1249 | 1976 (1) |
| A.1243 | 1968 | A.1250 | 1976 (2) |
| A.1244 | 1969-71 | A.1251 | 1977 (1) |
| A.1245 | 1972 | A.1252 | 1977 (2) |
| A.1246 | 1973 | A.1253 | 1978 |
| A.1247 | 1974 | A.1254 | 1979 |
| A.1248 | 1975 | A.1255 | 1980-81 |
- A.1256-
A.1258 Undated notes
3 folders.
- A.1259 Quotations and anecdotes of interest to Krebs.
For a time Krebs intended to publish in the autobiography a selection from the readings and comments which he had collected over the years.

Biographical and autobiographical

Jotters

See note at A.115-A.399 for guidance on further jotters with notes and drafts for the autobiography.

- A.1260 Jotter (front cover missing), 1971, with notes on 'Brighter Biochemistry', 'Autobiography. Self-assessment', etc.
- A.1261 Exercise book inscribed 'Autobiographical' on front cover and used 1971, 1972. 1 loose page.
- A.1262 Jotter inscribed on cover 'Original Notes all Dictated' and used 1972. Contents include notes for preface and chapter on 'retirement'. 1 loose page.
- A.1263 Exercise book inscribed 'Autobiography' on front cover, used 1973. Some loose pages.
- A.1264 Hardback notebook used December 1978-July 1981 for autobiographical notes, etc. Paginated 1-139 with contents list (incomplete) inside front cover. Many loose items.
- A.1265 Jotter inscribed on cover 'Notes dictated', n.d.
Notes relate to autobiography - 'At every stage of my career I was surprised at my successes' - and also visit to Indianapolis.
- A.1266 Exercise book, n.d.
Notes relate to autobiography - 'People have often expressed interest in any comments I might make on general questions concerning my working activities'.

Biographical and autobiographical

Correspondence

See also H.325, H.423

- A.1267-
A.1271 Correspondence with the Clarendon Press Oxford, 1969-82.
- A.1267 1969-70. Letter of 23 January 1969 informs Krebs that the Delegates had accepted his scientific autobiography for publication. Folder also includes photocopy of memorandum of agreement, 14 February 1969.
- A.1268 1973-76
- A.1269 1979. Includes notes by B. Wilcock of the Press on chapters 1-10.
- A.1270 1980. Krebs sent the manuscript of his autobiography to the Press in May.
- A.1271 1981-82, and n.d. Includes draft blurb and notes on proofs.
- A.1271A Brief correspondence re enquiry from John Murray about a possible autobiography from Krebs, 1971.
- A.1272 Correspondence with family and friends with comments on the autobiography, 1976-77, 1979, n.d.
- A.1273-
A.1275 Correspondence with or about A.V. Martin (Krebs's collaborator), 1978-81.
- A.1273 March-July 1978.
- A.1274 August-October 1978.
- A.1275 1979-81, n.d.
- A.1276 Requests from Krebs for information about book, 1980.

Biographical and autobiographical

A.1277

Reviews

Perhaps because of the close proximity in time of Krebs's death and the publication of the autobiography, many of the reviews are as much tributes to the man as critical assessments of the book. The reviewers include such lifelong friends and colleagues as H. Blaschko and F. Lipmann.

A.1278

Background material

Miscellaneous photocopied and printed material including copies of The Oxford Magazine and Oxford University Gazette.

1 Box.

Biographical and autobiographical

PRESS-CUTTINGS

A.1279

General

A collection of British and German press-cuttings on political, social and economic topics as well as science and scientists, from the 1930s onwards.

1 Box.

A.1280

Biographical

Mostly re Krebs's career , honours and awards, and overseas visits. A few relate to other members of the Krebs family.

1 Box.

SECTION B

SHEFFIELD B.1 - B.104

INTRODUCTION TO SECTION B

- B.1 -B.29 PHARMACOLOGY/BIOCHEMISTRY DEPARTMENTS
- B.30-B.40 WARTIME RESEARCH
With an introductory note
- B.41 -B.77 FUNDING AND ADMINISTRATION OF KREBS'S RESEARCH
- B.41-B.52 Rockefeller Foundation
 With an introductory note
- B.53-B.67 Medical Research Council Unit
 With an introductory note
- B.68-B.77 Miscellaneous
- B.78-B.90 GENERAL UNIVERSITY CORRESPONDENCE
- B.78-B.82 Central administration
- B.83-B.86 Other university departments, committees and organisations
- B.87-B.90 Sheffield hospitals
- B.91-B.104 LATER CONTACTS WITH SHEFFIELD
With an introductory note

Sheffield

In May 1935, at a meeting of the British Pharmacological Society at Cambridge, Krebs was offered the post of Lecturer in the Department of Pharmacology at the University of Sheffield by Professor E.J. (later Sir Edward) Wayne. Since there was not likely to be an equivalent post in Cambridge where he had settled immediately upon his arrival in England from Germany and since Sheffield offered him the possibility of continuing his research, he accepted the lectureship in Wayne's department. In 1938 the University agreed to change his title to Lecturer in Biochemistry and in 1945, the year in which the Medical Research Council established the Unit for Research in Cell Metabolism with Krebs as Honorary Director, Krebs was appointed to the University's newly-created Chair of Biochemistry. Everything still remained to be done in respect of the accommodation and staffing of the new department. Krebs's efforts to solve the space problem of the department met with considerable resistance within the university and it was not until 1952, when the university had at last provided greatly improved facilities including the conversion of a disused cinema, that a three-year Honours course could be envisaged. The offer of a Professorship at Harvard (1951) greatly strengthened his bargaining position, enabling him to secure the facilities he sought. In 1954 he left Sheffield to take up the Whitley Professorship of Biochemistry at Oxford.

For correspondence re Krebs's appointment as Lecturer in Pharmacology at Sheffield see A.27, A.436, D.12, D.13.

For correspondence re Krebs's appointment to the Chair of Biochemistry at Sheffield including letters of congratulation see A.443. A reprint of his inaugural lecture is at A.28.

For photographic record of Krebs's later years at Sheffield see L.5.

Sheffield

B.1-B.29 PHARMACOLOGY/BIOCHEMISTRY DEPARTMENTS

B.1 Pharmacology Department 1935-37

Brief correspondence with E.J. Wayne.

Folder includes letter (1935) re arrangements for Krebs to fulfil teaching commitment at Cambridge after his appointment to the Sheffield post. (Rem. & Refl. p.94.)

B.2-B.29 Biochemistry Department 1939-54

A chronological sequence of correspondence and papers on the general affairs of the department.

B.2 1939

Information on research workers in Krebs's department, provided in response to a request from the Vice-Chancellor, July.

B.3 1940

Brief correspondence with Vice-Chancellor re Biochemical Society meeting at Sheffield.

B.4 1940

Brief correspondence re transfer to Sheffield of personnel from P. Fildes's department of Bacterial Chemistry in London.

B.5 1940-41

Correspondence and papers re departmental expenditure, equipment and personnel (L.V. Eggleston and R. Hems).

Sheffield

B.6 1944

Exchange of letters with C.R. Harington re establishment of a research unit of Chemical Microbiology at Sheffield.

Krebs noted that since 1941 Sheffield had housed as an 'evacuee' the remnant of Fildes's department of Bacterial Chemistry: it was the wish of the university including Krebs himself that this type of research unit should continue at Sheffield after the war.

B.7 1944 (or later)

5pp. typescript memorandum on accommodation for the Department of Biochemistry and 2 ms. diagrams of biochemistry accommodation, n.d.

This memorandum compares 1941 proposals for the accommodation of the Biochemistry department with the much less generous space allocation for Biochemistry in the 1944 plan.

B.8 1945

Brief statement of the Biochemistry department's contribution to the war effort, produced in response to a university circular of 22 October.

B.9 1945-46

Exchange of letters, March 1945, between R. Hems (on war service) and Krebs, on the occasion of Krebs's appointment as Professor of Biochemistry at Sheffield.

Note to the University bursar, July 1946, confirming that Hems had returned from war service.

B.10 1946

Letter from T. Mann, 26 January, re possibility of placing a demobilised Polish Air Force officer as a student at Sheffield.

B.11-B.13 1947

- B.11 Correspondence with Vice-Chancellor on research interests of the Biochemistry Department and proposed new developments, January-February.

Folder includes 1p. Vice-Chancellor's Memorandum of a talk with Professors Smyth and Krebs, 15 January, and 1p. memorandum on development in the Department of Biochemistry sent by Krebs to the Vice-Chancellor, 30 January.

- B.12 Correspondence with the Vice-Chancellor re appointments, award of Fellowship by (United States) National Research Council to J. Stern to study under Krebs, additional accommodation for the department, etc., June.

Krebs's letter of 10 June discusses the possible candidature of S.R. Elsdon for the post of Senior Microbiologist in the University and Krebs's letter of 13 June refers to a letter of invitation to a chair of Biochemistry at London he had received.

- B.13 Correspondence with Vice-Chancellor re accommodation and staffing of the department, November.

B.14 1948

Correspondence with Vice-Chancellor and Bursar re departmental affairs, principally space problems.

Folder includes 3pp. typescript memorandum on accommodation for the Department of Biochemistry.

B.15 1948, 1951-53

Applications for posts in Krebs's department.

Folder includes reply to an invitation from Krebs to apply for unspecified Chair at Sheffield.

Sheffield

- B.16 1949
- Letters from Krebs's secretary in Sheffield during his absence in the United States as a Rockefeller Travelling Fellow, with news of the department, etc., March-April.
- Correspondence re travel funds to aid proposed conference on CO₂ fixation at Sheffield, May.
- B.17 1950
- Correspondence with University Grants Committee re possibility of Rockefeller Foundation finance for building and equipment of a new biochemical laboratory at Sheffield, June-July.
- Letters from Krebs's secretary providing news of the department while he was on holiday, August.
- B.18 1951
- Correspondence with Vice-Chancellor re Rockefeller Foundation support for Krebs's research, departmental appointment, the Harvard Professorship, etc., April-July, November.
- Folder also includes letter from Krebs to Dean of the Faculty of Medicine, J.G. McCrie, setting out the history of the Biochemistry Department.
- B.19 1951
- Letter from L. Young re Biochemical Society meeting at Sheffield, July.
- Letter from Krebs re history of Sheffield Biochemistry department in response to a circular from I.D. Ferguson who was writing a history of the Glasgow School of Physiology and Biochemistry, September.
- B.20 1951-52
- 'Undergraduate teaching in the department of Biochemistry'
- Typescript and ms. drafts of note on organisation of courses.

Sheffield

B.21-B.23 1952

B.21 Brief correspondence re proposed B.Sc. Honours Course in Biochemistry and new chemical laboratory dealing with the preparation of substances on a large scale, September-October.

B.22 'The teaching of Biochemistry and Microbiology in Sheffield University'

7pp. duplicated typescript paper prepared by Krebs and S.R. Elsdon in support of an honours course in biochemistry, dated 11 October 1952.

Typescript and ms. draft of the above paper, with many ms. additions and corrections.

B.23 'The Growing Science of Biochemistry'

6pp. typescript, n.d.

Observations on the teaching of biochemistry at Oxford by W.O. James, extracted from a letter from James to A.R. Clapham.

2pp. typescript, n.d.

Manchester Guardian, 13 October 1952

Marginal emphasis has been added to an article on research grants and technological education.

B.24 1953

1 letter only.

B.25-B.27 1954

B.25 Formal letter of thanks from the University on the occasion of Krebs's resignation from the Sheffield Chair of Biochemistry.

B.26 'Reflections on Resigning from the Chair of Biochemistry at Sheffield'

3 drafts (one incomplete); brief correspondence with Vice-Chancellor.

The section headings include origin and resources, personnel, morale, choice of successor. Appendices detail the budget of the MRC unit, 1945-46 to 1954-55, full-time research workers in the Biochemistry Department supported by outside bodies, 1936-54, and the present personnel (1954) including university staff, MRC staff, special research fellows and research students.

Sheffield

- B.27 Ms. and typescript drafts of portions of Krebs's 'Reflections', often very heavily corrected.
- B.28 Miscellaneous items re the supply of equipment and rationed foodstuffs to the department, various dates and n.d.
- The folder also includes a Biochemistry Department Christmas card.
- B.29 18pp. typescript account of his own career and the work of the department, 1934-48, by L.V. Eggleston.
- Continuation of the preceding to 1972, paginated 19-52.

Sheffield

B.30-B.40 WARTIME RESEARCH

Krebs's particular contribution to the war effort lay in the field of nutrition research. He undertook investigations into the properties of 'National Wheatmeal', with K. Mellanby, the Sorby Research Fellow of the Royal Society, who was based in Sheffield from 1941. According to Krebs's own statement of his department's contribution to the war effort (B.8): 'the digestibility of National Wheatmeal and its effect on the absorption of calcium from the intestine were examined on human volunteers prior to the compulsory introduction of the National Wheatmeal, and of the addition of calcium salts to it. The results of the work contributed towards shaping government policy'. Krebs also undertook investigations into vitamin A and vitamin C requirements of human adults, work which was also carried out on volunteers. Nutrition surveys were carried out in the Sheffield area and Krebs served on the Yeast Sub-Committee of the Scientific Committee on Food Policy of the War Cabinet.

The material is presented as a chronological sequence of correspondence and papers.

For additional material re wartime nutrition work see H.28, H.106, H.107, H.109, H.110, H.113, H.114, H.116, H.119, J 234, J.507, J.542, J.543, J.688.

As a continuation of Krebs's work on the citric acid cycle he was interested, in the early war years, in 'the idea that carbon dioxide might be an active metabolite taking part in synthetic processes' and the possibility of carrying out experiments with isotopic carbon to determine the question of carbon dioxide participation.

(Rem. & Refl., pp.126-131).

There is little material in this section on these developments (see especially B.30); for further related correspondence which Krebs had set aside for the October 1973 Boston conference on the historical development of bioenergetics, see E.31-E.33.

The diaries and research notebooks in Sections A and D also include additional information on research projects during the war years.

- B.30 Correspondence, 1940, 1942, re Krebs's attempts to obtain carbon isotopes for research on tissue metabolism.
- B.31 1940
- B.32 May-June 1941
- B.33 July-December 1941
- B.34 1942
Includes letter to the Lord President of the Council, C.R. Attlee, 3 March, re the 'almost complete failure' of the Scientific Committee on Food Policy (the Bragg Committee) and ms. draft of letter to The Times, 23 September, re the Nutrition Council advocated by its correspondents.
- B.35 1943
- B.36 1944
- B.37 1946-47
Includes long letter of complaint from a vitamin experiment volunteer, principally about expenses.
- B.38-B.40 Duplicated newsletters produced to enable the volunteers to keep in touch after the war.
- B.38 Sorby News Letter, no.3, February 1946. Described as the last Sorby News Letter.
Sorby Newsletter. New Series, no.1, April 1946.
Sorby Newsletter. New Series, no.2, July 1946.
- B.39 Sorby Newsletters, nos. 5, 6, 7, 1947
- B.40 Sorby Newsletters, nos. 8, 9, 10, 1948
Sorby Newsletter, no.13, 1949

Folder also includes a short letter from Krebs to W. Bartley, 16 August 1977, re recorded message for a Sorby reunion.

Sheffield

B.41-B.77 FUNDING AND ADMINISTRATION OF KREBS'S RESEARCH

B.41-B.52 Rockefeller Foundation 1935, 1937-42, 1946-47, 1949-55

A chronological sequence of correspondence principally between Krebs and officers of the Foundation and relating to support for Krebs's research and the development of biochemistry at Sheffield. In a letter of 21 April 1947 (see B.45), Krebs noted the extent of his debt to the Rockefeller Foundation: 'At a critical period of my career, when I was young and without reputation, they generously supported me, first at Freiburg and especially during my first year in this country at Cambridge in 1933. Later the help of the Foundation contributed much to the development of my present department'. For material re Rockefeller funding after Krebs's move to Oxford, see C.129-C.139. See also B.17, B.18, B.65, D.30.

B.41 1935

1 letter only, predating Krebs's move to Sheffield.

B.42 1937-38

1937 letter is the Rockefeller Foundation's response to a request from E. J. Wayne for financial assistance to purchase equipment for Krebs's research.

1938 material relates to Rockefeller Foundation proposal for a five-year scheme of assistance for Krebs's research conditional on the establishment of a Department of Biochemistry at Sheffield. Includes memorandum by Krebs on the probable requirements of the Department of Biochemistry during the next five years (3pp. typescript).

B.43 1939-40

June 1939 correspondence relates to the award of a Rockefeller Fellowship to V.R. Potter to work in Krebs's laboratory.

September-October 1939 and July 1940 correspondence relates to working conditions in the department and the prospects for the continuation of research.

Sheffield

B.44 1941-42

Correspondence re two one-year extensions of financial assistance to Krebs's department. In May 1941 Krebs submitted, in the form of a 4pp. letter, 'an account of the progress of the research which the Foundation has now supported for five consecutive years, and also a report on future plans and on the general working conditions in the present circumstances'.

B.45 1946-47

1946 correspondence includes Krebs's letter to the Import Licensing Department re importing of scientific apparatus from the USA.

In April 1947 Krebs, in reply to congratulations on his election to the Royal Society, expressed his gratitude for Rockefeller Foundation's generous support for his work from Freiburg onwards.

B.46 1949-50

1949 correspondence is with the British Commonwealth Scientific Office (North America) re Krebs's purchase of scientific equipment during a visit to the USA, with Rockefeller funds.

1950 correspondence relates to Krebs's enquiry whether the Foundation might be willing to consider an application for financial assistance in respect of new accommodation for the Sheffield Biochemistry Department.

B.47 1951

Correspondence re Krebs's application to the Foundation for financial support for his research. Krebs's letter of 24 April and its appendices detail the research area and the equipment needs of the department. He was awarded a grant of \$35,000 for a three-year period beginning 1 June.

B.48 1953

1 letter only.

Sheffield

B.49-B.51 1954

B.49 January

Correspondence re extension of Foundation support when current grant came to an end in June 1954. In his letter of 21 January Krebs submits an estimate of expenditure under the current grant for 1953-54 and lists of envisaged expenditure for 1954-55.

B.50 February-May

Continuing correspondence re support for Krebs's research.

In his letter of 6 February Krebs reflects on the prospect of the Oxford chair - 'the future of Oxford is so uncertain that I omit it entirely from my present plans for the future' - and in April the Foundation agreed to make available \$80,000 for Krebs's research at Sheffield during the five-year period beginning 1 June 1954.

B.51 July-August

In his letter of 1 July Krebs confirmed that he would be going to Oxford on 1 October. Subsequent correspondence deals with problems in respect of the grant already made to Krebs for his work at Sheffield and the prospect of financial support for Krebs at Oxford.

Includes 1p. ms. note of totals of university grants 1946-54 and Rockefeller Foundation funding 1935-54.

B.52 1955

Copies of letters from Rockefeller Foundation to Sheffield University re termination of Rockefeller grant to Sheffield for biochemical research under Krebs.

Sheffield

B.53-B.67 Medical Research Council Unit, 1944-54

In 1944 the Medical Research Council made an offer to Sheffield University to establish a research unit in Krebs's department under his directorship. The MRC insisted on the provision of adequate accommodation and that Krebs's status should be raised to that of professor on the understanding that they would contribute half his professorial salary. Krebs suggested the designation of 'Unit for Research in Cell Metabolism'. This development was of great importance to the scope of Krebs's research, providing long-term financial support for the salaries of a team of collaborators, equipment and running expenses. In 1954, when Krebs accepted the Whitley Professorship of Biochemistry, the unit moved with him to Oxford. (Rem. & Refl., pp.132-3.)

At its inception the unit was a victim of a famous printing error. The new departmental notepaper was headed 'Medical Research Council. Unfit for Research in Cell Metabolism'. See B.56, D.37.

A sequence of correspondence and papers presented chronologically.

B.53 1944

Letter from Vice-Chancellor, 22 November, informing Krebs that he had replied to Sir Edward Mellanby (Secretary of the Medical Research Council) 'to the effect that the University would greatly welcome the formation of an M.R.C. Unit of research in Biological Chemistry with you as Director if his Council decide to propose it'.

Copy of letter of same date from Vice-Chancellor to Dean of Medicine at Sheffield re new accommodation for Krebs.

B.54-B.56 1945

B.54 Correspondence, January, between Krebs and Sir Edward Mellanby.

In his letter of 17 January Krebs suggests as a name for the proposed unit: 'Unit for Research in Cell Metabolism'.

B.55 Correspondence, October-December, between Krebs and Sir Edward Mellanby.

Relates to a proposal of the Therapeutic Research Corporation to pay the remuneration of additional members of Krebs's staff.

Sheffield

- B.56 Four examples of the letter-heading of the new departmental notepaper with the printing error 'Unfit for Research in Cell Metabolism', one incorporated into a draft page of Krebs's autobiography.
- B.57-B.64 Correspondence re salaries and staffing of MRC unit, 1946-50.
- B.57 1946, February-March
- B.58 1946, April-November
- B.59 1946, December; 1947, January
- B.60 1948-49
- B.61 1949, June-July
- B.62 1949, June (relates to visit of H.P. Himsworth to Sheffield before taking over as MRC Secretary in October)
- B.63 1950, February-April
- B.64 1950, August-October
- B.65 1951
- Correspondence re Rockefeller funding, research proposals, Harvard professorship and space problems at Sheffield, April-October.
- B.66 1954
- Letter of 13 July from the MRC detailing the total financial provision for Krebs's unit for each of the nine years 1945-46 to 1954-55.
- Correspondence, October and December, re the resignation of F.P. Chappel from the staff of the unit.
- Chappel, a member of the unit's staff for the three years to October 1954, had worked at the Department of Physics, University of Leeds.

- B.67 Various dates and n.d.
Medical Research Council Progress Report, 1950-53, of the Unit
for Research in Cell Metabolism.
Two undated ms. lists of MRC personnel.
Also filed here for convenience is a notice of memorial service
of Sir Edward Mellanby, 1955.

B.68-B.77 Miscellaneous

B.68 Home Office licences

B.69, B.70 Suppliers of research material

B.71-B.77 Requests to visit/work in Krebs's laboratory.

B.68 Home Office Licences. Various dates, 1936-46
Notes for the guidance of Krebs in his application for a licence to carry
out experiments on live animals and the letter transmitting the licence
to Krebs (but not the licence itself), 1936; Letters reminding Krebs of
the statutory requirement to submit a return of experiments and a blank
form for the return, 1936-46. For later material re Home Office licences
see C.145-C.149.

B.69, B.70 Correspondence with suppliers of scientific material for Krebs's research,
presented in a chronological sequence.

B.69 1945-49

B.70 1950-54

Sheffield

B.71-B.77 Correspondence re requests to visit or work in Krebs's laboratory, arranged in a chronological sequence. There is similar material in the correspondence files.

B.71	1947-58	B.75	1953(1)
B.72	1950	B.76	1953(2)
B.73	1952(1)	B.77	1954
B.74	1952(2)		

B.78-B.90 GENERAL UNIVERSITY CORRESPONDENCE

B.78-B.82 Central administration

A chronological sequence of correspondence and papers re the general affairs of the university.

B.78 1939-40

B.79 1940

Correspondence with Vice-Chancellor, J.I.O. Masson, the General Secretary of the Society for the Protection of Science and Learning, Esther Simpson, and Eleanor Rathbone M.P. re the problems of enemy aliens at Sheffield University

According to Krebs the situation had arisen when the main buildings of the University were declared a 'special area' because of war research carried out there. As a result refugee students, if they were not interned, were barred from the University.

The position of alien refugees at other British universities, especially Cambridge, Bristol, Liverpool, Manchester, Birmingham and Durham-cum-Newcastle, is mentioned in the correspondence.

See also J.333.

Sheffield

B.87-B.90 Sheffield hospitals

B.87 1944

Krebs's appointment to supervise the biochemical departments of the Royal Sheffield Infirmary and Hospital, February.

2pp. typescript notes on the 'Biochemical Laboratory, Sheffield Royal Infirmary', with ms. corrections and additions. Initialed by Krebs and dated 27 November 1944.

2pp. typescript note on the 'Biochemical Laboratory', 21 December 1944.

B.88 1945

5pp. typescript memorandum on 'Developments at the Biochemical Laboratories of the Sheffield Royal Infirmary and Hospital'.

Letter from Krebs to Professor Barnes, 12 February, enclosing the preceding.

B.89 1945-47

Brief correspondence re transferring of testing of patients from Krebs's department to hospital biochemical departments, appointment of Senior Biochemist at the Royal Sheffield Infirmary and Hospital, etc.

In November 1945 Krebs accepted an invitation to the office of Honorary Biochemist at the Royal Sheffield Infirmary and Hospital and in May 1947 he accepted the same office at the Children's Hospital, Sheffield.

B.90 1951-52, 1954

Correspondence and papers re requests for Krebs's advice on the treatment of patients, from Sheffield hospitals and the Postgraduate Medical School of London.

Sheffield

- B.91-B.103 LATER CONTACTS WITH SHEFFIELD, various dates, 1954-58, 1961-64,
1973-80

Krebs retained a close interest in the university after his departure for Oxford. He returned on a number of occasions to lecture, most notably for the July 1980 Biochemical Society meeting held in his honour, and was consulted on appointments and university development especially in the biochemical and medical fields.

- B.91, B.92 Sheffield University Student Biochemical Society, 1958, 1964,
1973-80.

In 1958 Krebs gave the inaugural lecture of the society on 'Rate control of metabolic processes'. In 1974 he returned to give the Biochemical Society Lecture on 'The role of chemical equilibrium systems in organ function'. For many years Krebs served as Vice-President of the Society.

Two folders:

- B.91 1958, 1964

- B.92 1973-80

- B.93 Sheffield University Philosophical Society, 1961

Invitation to lecture (declined).

- B.94 Correspondence with the University Bursar re accommodation at Crewe Hall for a meeting of the Society of General Microbiology, 1963.

As a result of Krebs's intervention the 27 year-old mattresses at Crewe Hall were replaced.

- B.95 Sheffield University Medical Society, 1975-77

Krebs was invited to contribute to a programme of lectures to celebrate the fortieth year of publication of the Society's magazine Northwing. He had contributed to the magazine's summer edition of 1943.

- B.96 Brief correspondence re Biochemistry Department's collection of Krebs's reprints; drafts of Krebs's introduction to his collected papers at Sheffield. 1978.

Sheffield

- B.97 Brief correspondence re Sheffield University Centenary Appeal, 1979-80.
- Krebs was a patron of the appeal.
- B.98-B.100 Biochemical Society meeting at Sheffield, July 1980, to honour Krebs's 80th birthday. See also G.26.
- B.98 Correspondence with organisers re arrangements, 1978-80.
- B.99 Notes and draft for Krebs's speech.
- 4pp. draft of 'Envoi' chapter of autobiography presumably used in preparation of speech.
- B.100 Biochemical Society Bulletin, February 1980, with announcement of July meeting at Sheffield.
- Biochemical Society Bulletin, June 1980, with programme of Sheffield meeting.
- Leaflet with details of arrangements for Sheffield meeting.
- B.101 Sheffield University Dining Club, n.d.
- 2pp. typescript and 1p. ms. draft of speech of reminiscences on the early history of the club, given by Krebs on a visit to Sheffield.
- 2pp. typescript reminiscences, possibly delivered on the same occasion.
- B.102-B.104 References and appointments
- B.102 1954-56, 1958
- B.103 1973, 1977
- B.104 Miscellaneous

SECTION C

OXFORD C.1 - C.389

C.1-C.96 BIOCHEMISTRY DEPARTMENT

C.1-C.34 General administration

C.35-C.58 Lectures

C.59-C.85 Building extension

C.86-C.96 Sub-departments

C.97-C.182 FUNDING AND ADMINISTRATION OF KREBS'S RESEARCH

C.97-C.123 Medical Research Council Unit/Metabolic Research Laboratory

C.124-C.144 Financing bodies

C.145-C.182 Miscellaneous

C.183-C.240 DEVELOPMENT OF SCIENCE AT OXFORD

With an introductory note

C.183-C.189 Development of Biology

C.190-C.201 'Oxford's needs in science'

With an introductory note

C.202-C.204 Biology Centre

C.205-C.211 Zoology

C.212-C.236 Molecular Biophysics

C.237-C.240 Miscellaneous

Oxford

- C.241-C.334 UNIVERSITY REFORM
- With an introductory note
- C.241-C.260 General correspondence and papers
- C.261-C.273 Salaries
- With an introductory note
- C.274-C.278 Schedule A Professorships
- C.279-C.328 Committees and Commissions of Inquiry
- C.329-C.334 Publications
-
- C.335-C.389 GENERAL UNIVERSITY CORRESPONDENCE
- C.335-C.361 Central administration
- C.362-C.372 Electoral Boards
- C.373-C.389 Libraries, departments, colleges and societies

For correspondence and papers re Krebs's election to the Whitley Professorship of Biochemistry, see A.555-A.566.

Oxford

C.1-C.96 BIOCHEMISTRY DEPARTMENT

See also C.335-C.361

C.1-C.34 General Administration

A chronological sequence of correspondence and papers re the general affairs of the department.

C.1 'Notes on informal speech to assembled members of Oxford Biochem. Dept. on assuming office, 2.10.1954'.

C.2 Various lists of departmental personnel, 1954-55.

C.3 Correspondence re arrangements for visiting lecturer, 1955.

C.4 Applications for/enquiries about posts in Krebs's department, 1955, 1957-58.

C.5 'Departmental Estimates 1955/56'
4pp. typescript with details of expenditure and income.

C.6 Brief correspondence re departmental personnel, 1956.
Minute of staff meeting, 13 November 1956, re appointment.

C.7 Papers re teaching survey of members of department, 1956.
Folder also includes 'Undergraduate Teaching Before HAK - Practical Classes 1953-1954' and material on the duties of demonstrators, 1955-56.

C.8 Material re effect of insufficiency of the quinquennial grant on the department, 1957.

C.9 Correspondence and papers re joint research project with Nuffield Department of Surgery, 1957-58.

Oxford

- C.10 Brief correspondence re departmental staff meetings, January and November 1958.
- 'Outline proposal for the revision of the Honour School of Biochemistry with reference to the inclusion of suitable courses in Physiology', 1 May 1958. By C.W. Carter.
- Brief correspondence with Registry re undergraduate and research student numbers, June-July 1958.
- C.11 Krebs's minute of student comments on departmental teaching, 28 January 1959.
- Statement of grave concern about the state of teaching in the department (2pp. typescript). Not by Krebs. n.d. but not later than October 1959.
- Proposal for reorganisation of Biochemistry teaching. n.d. ? 1959.
- Folder also includes earlier (1956) minute re Biochemistry teaching.
- C.12 Duplicated typescript notes (8pp.) 'intended to introduce students to the Department of Biochemistry at Oxford University'. By Krebs. September 1959.
- C.13 Lists of departmental personnel, 1961 and 1963.
- Minutes of discussions re new Fellowship at Wadham College in chemistry-cum-biochemistry, 1961 and 1962.
- C.14 Correspondence re arrangements for visiting lecturers, 1961-63.
- C.15, C.16 'Future of Final Year Students'. Various dates 1961-67.
- Principally Krebs's typescript notes of interviews with undergraduate and postgraduate students, reports of tutors and supervisors, references provided by Krebs, etc.
- C.15 1961-65
- C.16 1966-67
- C.17 Krebs's orders for U.S. Government publications, 1961-67.

Oxford

- C.18 Correspondence and papers re secretarial appointments, 1963-64.
- C.19, C.20 Correspondence, etc., with The Wellcome Trust re fellowships, research training scholarships, etc., 1964-68.
- C.19 1964
- C.20 1965, 1967-68
- 1965 material includes brief exchange re 90th birthday of Sir Henry Dale.
- C.21 'Survey of Graduates in Biochemistry - January 1965'
- 'Quinquennial Estimates - Department of Biochemistry' (1965).
- C.22, C.23 Correspondence and papers re arrangements for visiting lecturers, 1965.
- 2 folders.
- C.24 Papers re appointment of Krebs's successor as Whitley Professor of Biochemistry, 1966.
- Includes Krebs's 'Memorandum for Hebdomadal Council and Electors of the Whitley Professorship', 10 September (2 copies) and letter from A.L.P. Norrington commenting on the memorandum, 23 September.
- C.25 Duplicated typescript notes (8pp.) 'intended to introduce students to the Department of Biochemistry at Oxford University'. By Krebs. October 1966.
- C.26 'Whitley Professorship'
- 2pp. typescript draft with ms. corrections, 31 October 1966. Principally relates to departmental budget.
- 'Departmental Finance'
- 1p. typescript (carbon), 14 December 1966.

Oxford

- C.27 Papers re use of classrooms in the department, practical classes, visiting lecturers, departmental seminars, applicant for lecturership in department, etc., 1966-67.
- C.28 Material re departmental expenditure financed from outside grants, 1967.
- Includes draft letters to the editor of the Oxford Magazine and the Registry.
- C.29 Papers re transfer to Oxford of Krebs's successor and his research team, 1967.
- Includes Krebs's 'Report on Recent Events in the Department of Biochemistry', 17 February, which relates to structural alterations necessitated by the transfer (Rem. & Refl., pp.204-5), and a draft of the section in Krebs's last annual report on the transfer of responsibility to his successor.
- C.30 Lists of departmental and microbiology unit personnel, 1967.
- C.31 Project work for Biochemistry department students in Krebs's laboratory, 1971.
- Biochemistry department examinations, 1973.
- Honorary MA degree for chief technician in Biochemistry, 1979.
- C.32 History of Biochemistry department.
- Letter from Edward Whitley (1973) re his father, the founder of the Whitley Professorship, with abridged pedigree of Whitley family.
- Folder also includes copy of booklet printed to commemorate the opening of the Oxford School of Biochemistry, 1927.
- C.33 Miscellaneous items re departmental personnel, research, student numbers, teaching, examinations, etc.
- C.34 Krebs's annual departmental reports, 1957-65.

C.35-C.58

Lectures

C.35-C.37

'First Year Biochemists'

Contents of a ring-back binder so inscribed.

The material is divided into three folders for ease of reference.

C.35

'The nature of biochemistry'

7pp. typescript draft, with a very few ms. additions and corrections, paginated 4-10.

'The nature of biochemistry'

2pp. typescript draft, headed 'HLK' and 'JRQ' [Kornberg and Quayle].

'The nature and scope of biochemistry'

2pp. typescript draft, with ms. corrections.

Untitled 6pp. typescript draft on the nature of biochemistry, headed with the names W.H. Elliot and K.M. Jones.

C.36

'Detailed Notes'

4pp. typescript draft, with ms. additions and corrections, on the nature of biochemistry. By R.B. Fisher.

'How to become a Biochemist'

2pp. typescript draft, with ms. corrections.

'What happens to the food we eat'

3pp. typescript draft, dated 8 August 1960.

Miscellaneous ms. and typescript notes on the nature of biochemistry.

C.37

Krebs's 1946 inaugural lecture at Sheffield, 'The advent of biochemistry', with underscoring and marginal emphasis.

'Prospects for the development of biochemistry in the light of the resolutions of the XXI Congress of the Communist Party of the Soviet Union', with underscoring and marginal emphasis.

Miscellaneous background material.

Oxford

- C.38 'Two introductory lectures for first-year biochemists'
6pp. typescript draft of first lecture, with ms. corrections, 1960.
7pp. typescript draft of second lecture, with ms. corrections, 1960.
1p. typescript note and 1p. ms. note on the history of biology
since 1900, 1961. Found with the preceding.
- C.39-C.43 'Lectures, Final Year Biochemists'

Contents of a folder so inscribed.

The material has been divided into 5 folders for ease of
reference.
- C.39 'Synopsis of Final Honour Biochemistry School Lectures,
Hilary Term, 1960'

Notice of a series of lectures by Krebs on 'Special aspects of
the energy-giving reactions (cause of specific dynamic action
of foodstuffs, rate control of energy metabolism)'. Hilary Term,
1960.

2pp. typescript draft introduction to the series.

2pp. typescript draft, 20 January 1960. Untitled but 'mainly
quoted from Medawar'.

Miscellaneous ms. and typescript notes.
- C.40 'F.H. Biochem. Class Work January 1960'

Krebs's ms. and typescript notes of experimental method.

Experimental account and results in other hands, probably students.
- C.41 Duplicated notes for practical classes. Hilary Term, 1960.

1p. typescript note on the use of the departmental library by
4th-year honours students, 14 October 1961.
- C.42 Notice of a series of lectures by Krebs, on 'Control of Metabolic
Processes', Hilary Term, 1962.

Duplicated notes for practical classes: advanced enzymology and
cell fractionation studies, 1962.
- C.43 Duplicated notes for practical classes, with ms. tables of results,
1964.

C.44-C.47

'F.H.S. Physiology Lectures I'

Contents of a spring-back binder so inscribed.

The material is divided into four folders for ease of reference.

C.44

'Energy transformations in living matter'

Krebs's first lecture, given 17 October 1959.

5pp. typescript draft, with a few ms. additions and corrections.

'Untitled second lecture, given 24 October 1959.

6pp. typescript draft.

Krebs discusses the question of how much energy is released by respiration on the one hand and fermentation on the other.

C.45

'Intermediary stages of the energy yielding reactions'

Krebs's third lecture, given 31 October 1959.

5pp. typescript draft.

Untitled fourth lecture, given 7 November 1959.

6pp. typescript draft.

C.46

Untitled fifth lecture, given 14 November 1959.

6pp. typescript draft and 1p. ms. note.

Untitled sixth lecture, given 21 November 1959.

4pp. typescript draft.

Oxford

- C.47 'General observations on the energy giving reactions'
- 22pp. typescript draft, with ms. additions. Includes tables and list of references.
- Miscellaneous ms. and typescript notes.
- C.48-C.52 'F.H.S. Physiology Lectures II'
- Contents of a spring-back binder so inscribed.
- The material has been divided into five folders for ease of reference.
- C.48 List of seven lectures to Final Honours Physiology. n.d.
- Dated ms. and typescript notes for Final Honours Physiology lectures, 1956-62.
- C.49 Untitled seventh lecture, dated 28 November 1959.
- 7pp. typescript draft, with ms. additions and corrections.
- Untitled first lecture, dated 23 January 1960.
- 8pp. typescript draft, with ms. additions and corrections.
- C.50 Untitled second lecture, dated 30 January 1960.
- 8pp. typescript draft, with ms. additions and corrections.
- Untitled third lecture, dated 6 February 1960.
- 7pp. typescript draft, with ms. additions and corrections.
- C.51 Undated ms. and typescript notes.
- C.52 Printed background material.

Oxford

- C.53 Biology option for chemists, 1966.

3pp. duplicated typescript course outline.

7pp. draft of Krebs's introductory lecture, typescript and printed material (extract from Krebs's 1946 inaugural lecture at Sheffield).
- C.54 Letter from course organiser and list of lectures on disorders of human metabolism, 1973-74.

Ms. notes and printed background material.
- C.55, C.56 'Regulation of the redox state'

Drafts of three lectures, 1972-73, letter from course organiser, reading list and lecture timetable.

Two folders.
- C.57 Lecture timetable for F.H.S. Biochemistry option on the regulation of metabolic pathways, n.d.

Krebs gave two lectures on compartmentation.

Ms. and typescript notes on compartmentation, 1973.
- C.58 Unattributed ms. and typescript notes. Some material dated in 1973.

Oxford

C.59-C.85 Building extension, 1955-64

During Krebs's tenure of the Whitley Professorship a major building extension was planned and completed - an eight-storey wing which more than doubled the size of the department. Although the University Grants Committee provided the greater part of the finance for the extension and its equipment, Krebs was obliged to approach the Wellcome Trust for the finance for an extra research floor for the Head of Department (Rem. & Refl., p.196).

C.59-C.74 Correspondence and papers re building extension with Registry, University Surveyor, the architects and academic colleagues, 1955-60.

C.59 April-May 1955

Folder includes Biochemistry location plan, May.

C.60 June-July 1955

Includes memorandum giving draft requirements for the first extension of the department.

C.61 August-September 1955

C.62 October-December 1955

C.63 May-June 1956

Includes 8pp. memorandum on the Biochemistry extension submitted to the Building and Development Committee of Council and the General Board.

C.64 July 1956 (1)

Includes memorandum (various drafts) of additional information on the Biochemistry extension for the Building and Development Committee of Council and the General Board. Deals with curriculum changes and general aspects of the development of Biochemistry.

Oxford

- C.65 July 1956 (2)
- Includes memoranda on 'Biochemistry Extension - Plan B', 'Future of Biochemistry', 'Physical Biochemistry' and 'Virus research'.
- The memorandum on Plan B has the ms. comments of senior members of the department.
- C.66 August-October 1956
- Includes memoranda on the requirements for the extension and the canteen problem, sent to the architects.
- C.67 November-December 1956
- Includes undated papers found with 1956 material.
- C.68 January-June 1957
- Includes notes on meeting of members of the Biochemistry department, the University Surveyor and the architects, 27 February, and schedule of accommodation for the extension.
- C.69 July-August 1957
- Includes committee papers for consideration of the Building and Development Committee, 29 July, with timetable prepared by the University Surveyor of the planning stages for the Biochemistry extension.
- C.70 October-December 1957
- Includes reports and memoranda on the Biochemistry extension, F.H.S. Biochemistry and the microbiology unit and notice of a symposium on the design of teaching laboratories, organised by the RIBA for March 1958.
- C.71 January-April 1958
- Includes 'Comments on the scheme for the Biochemistry Extension dated 17.3.58.' (5pp. typescript).

- C.72 1959
- Includes memorandum (by R. Cecil) on the architects' shortcomings in their planning of the extension. Sent to the Registrar by Krebs, 17 April.
- C.73 1960
- Includes Building and Development Committee paper re revised estimate of cost and notes made by Krebs in case he should be requested to raise the money to meet the shortfall, July.
- C.74 Miscellaneous papers re Biochemistry department extension.
- C.75-C.80 Outside grants for Biochemistry department extension.
- C.75-C.79 Wellcome Trustees
- C.75 1955
- Minute of visit from Sir Henry Dale, 28 November.
- C.76 June 1956
- Minutes of discussions with Secretary of Wellcome Trustees, senior Biochemistry department staff and Registrar, and draft letter from the Registrar to Sir Henry Dale re possible grants from the Wellcome Trustees for the Biochemistry extension.
- C.77 July-August 1956
- Correspondence with Sir Henry Dale re award of grant towards the cost of the projected new biochemistry building.
- C.78 1957-60
- Includes copies of correspondence between the Registrar and Sir Henry Dale.
- C.79 1963
- Brief correspondence re plaque to record formally in the building the indebtedness to the Wellcome Trust.

C.80

J.R. Geigy, S.A.
1958-59

Correspondence re small contribution to Krebs's biochemical laboratories from Geigy and its British subsidiary.

C.81

Typescript notes (6pp.) recording progress of building extension, 16 October 1961 to 11 June 1964.

Folder also includes 1p. typescript note: 'Comment on the following inscription in the entrance hall of the Department of Biochemistry'.

C.82

Newspaper cuttings re Biochemistry department architect, 1959.

C.83

Photographs of work in progress on the extension, with one earlier (1954) photograph.

C.84, C.85

Biochemistry extension open day, 2 May 1964.

C.84

Correspondence re arrangements, invitations, letters of thanks, etc.

C.85

Notes of arrangements, programme, press-cutting, draft of Krebs's speech at open day lunch.

Folder also includes draft of Krebs's speech at buffet luncheon, 14 January, for members of department, architects, consultants, builders, etc.

Oxford

C.86-C.96 Sub-departments

C.86-C.93 Iveagh Professorship of Chemical Microbiology, 1955, 1964-66

According to Krebs's own note preserved at C.89, the professorship was established in 1955 with outside support from Arthur Guinness & Sons, in the first instance for the expected tenure of the first professor, D.D. Woods, and after his death for the tenure of the second professor, J. Mandelstam. This support was sufficient to raise a readership to a professorship, to finance post-doctoral fellowships and contribute to general laboratory expenses. (Cf. Rem. & Refl., pp.204-5).

See also C.353.

C.86-C.89 Correspondence and papers re the establishment of the Iveagh Professorship, 1955.

C.86 May

C.87 June-July

C.88 September-November

Includes Krebs's note for the 'News and Views' columns of Nature on the appointment of D.D. Woods as Iveagh Professor.

C.89 Ms. and typescript notes by Krebs and D.D. Woods on the establishment of the Iveagh Professorship.

C.90 D.D. Woods's thoughts on Schedule A professors, March 1964, and paper on the Iveagh Professorship which Woods and Krebs discussed with the Secretary of the Faculties, July 1964.

C.91-C.93 Correspondence and papers re the future of the Chair after the death of D.D. Woods and the appointment of his successor, 1964-66.

C.91 Krebs's memorandum on the Iveagh Professorship, 21 November 1964, and correspondence about it with J.W.S. Pringle and B. Bleaney; second copy of memorandum incorporates Bleaney's comments.

C.92 November 1964-January 1965

C.93 1966

Oxford

C.94-C.96 Laboratory of Human Nutrition, 1955-59, 1963

The laboratory was incorporated in the Department of Biochemistry in 1955. See also C.346.

C.94, C.95 Correspondence with H.M. Sinclair, Sir Henry Dale and the University Registry re future of the laboratory.

C.94 1955

C.95 1956, 1963

C.96 Grant from Chilean Iodine Educational Bureau, 1955-59

Correspondence and report on work carried out under the grant (1956-57).

C.97-C.182 FUNDING AND ADMINISTRATION OF KREBS'S RESEARCH

C.97-C.123 Medical Research Council Unit/Metabolic Research Laboratory

A chronological sequence of papers and correspondence.

Most of the material presented here relates to a 1959 proposal to transfer the unit from the Medical Research Council to Oxford University, the future of the unit when Krebs retired from the Whitley Professorship and the move to and running of Krebs's 'retirement' quarters in the Radcliffe Infirmary, Oxford. The designation Metabolic Research Laboratory was adopted for these 'retirement' premises.

- C.97 Medical Research Council Cell Metabolism Research Unit
Progress Reports, 1953-57 and 1957-61.
- C.98 Brief correspondence with University Registry re accommodation
for MRC unit, 1954-55.
- C.99 Lists of MRC unit personnel, 1957-58, 1966, 1968, 1972 and n.d.
- C.100 Schedule and brief correspondence re visit by the Lord President
of the Council, Lord Hailsham, to Oxford MRC units, 1959.
- C.101-C.106 Correspondence and papers re proposed transfer of MRC unit
to Oxford University, 1959-61.

This 'major threat to the work of the Unit' came about in 1959 when the University Grants Committee in a report on university development suggested that the responsibility for some MRC units should be transferred to universities. In compliance with this policy the MRC asked Oxford University to enter into negotiations about the transfer of Krebs's unit. In the discussions with the General Board of the University it became clear that there were major difficulties in the way of a transfer including discrepancies between MRC and university salaries for a number of senior members of the unit and the financing of the unit as a whole after the ending of MRC support. Negotiations were abandoned after two and a half years of frustrating argument and Krebs concluded that the University as a body attached little importance to his unit's work (Rem. & Refl., pp.141-4).

Oxford

- C.101 January-April 1959
- Includes Krebs's memorandum on the proposed transfer of the MRC Unit in the Department of Biochemistry, 16 April. (13pp. duplicated typescript including tables and appendices).
- C.102 Contents of envelope inscribed 'MRC Unit Transfer Staff Meeting'
- Copy of Krebs's memorandum (8pp. duplicated typescript) and comments on it of eight senior members of the Biochemistry department.
- C.103 June-October 1959
- Includes copy of memorandum on salaries of university demonstrators (see also C.261), notes for meeting of Council, 5 October, and second memorandum on the proposed transfer of MRC Unit, 8 October.
- C.104 November-December 1959
- Includes part of the report of the Standing Committee for Natural Science (10 November 1959) as related to the proposed transfer, with Krebs's comments, and various drafts and copies of the second memorandum on the transfer.
- C.105 1960
- Includes draft of speech prepared by Krebs for meeting of Council, 29 October 1960, but not delivered.
- C.106 1961
- C.107 Brief correspondence re official visit of MRC to Oxford units, 1963.

Oxford

- C.108-C.112 Correspondence, etc., with the Medical Research Council and the University re the future of the MRC unit after Krebs reached the statutory age of retirement. 1965-67.
- The material relates to Krebs's post-retirement plans, the future of his research team and the disposition of MRC equipment.
- See also C.353.
- C.108 1965
- Includes draft letter to Hebdomadal Council (not sent) on post-retirement activities.
- C.109 January-March 1966
- C.110 April-May 1966
- Includes draft statement 'Laboratory in the Nuffield Department of Medicine, Radcliffe Infirmary', 15 April, giving details of Krebs's research team, recent research interests, wish to continue research after retirement, etc.
- The statement was probably the basis of a grant application to meet the costs of alterations to the laboratory in the Nuffield Department offered to Krebs by P.B. Beeson, Nuffield Professor of Clinical Medicine.
- C.111 June-August 1966
- Includes correspondence re the terms of the MRC's acceptance of Krebs's proposal for post-retirement research.
- C.112 December 1966, September-October 1967

Oxford

- C.113-C.123 Metabolic Research Laboratory, Radcliffe Infirmary, 1966-81
- C.113-C.121 Correspondence and papers re accommodation, equipment and the general running of the laboratory.
- C.113 1966
- Material relates to the conversion into a biochemical research laboratory for Krebs of rooms vacated by the Department of Anaesthetics in the Nuffield Department of Clinical Medicine.
- C.114 January-June 1967
- Continuing correspondence on conversion of laboratory for Krebs. See also C.122.
- C.115 July-December 1967
- Includes correspondence with the Registry re the University's acceptance of the MRC's offer of support for Krebs's research in the Nuffield Department of Clinical Medicine.
- C.116 1968
- C.117 1970-72
- Includes request from Nuffield Department of Orthopaedic Surgery for advice on proposed research (1971) and Krebs's letter to the Director of the Committee on Invisible Exports setting out the invisible earnings of his research laboratory (1972).
- C.118 1974
- C.119 1975-78
- 1975 correspondence relates to the future of Krebs's research group.
- 1977 papers include 'Material for the renewal of the grant of the Medical Research Council', 5 and 6 April (6pp. typescript).

Oxford

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| C.120 | 1979 | | |
| | | Includes material <u>re</u> possible move of the research group from the Radcliffe Infirmary to the John Radcliffe Hospital, Headington, Oxford. | |
| C.121 | 1980-81 and n.d. | | |
| C.122 | Grants to cover costs of converting accommodation into biochemical research laboratories. | | |
| | J.R. Geigy, S.A. | | 1967-68 |
| | Nuffield Committee | | 1969 |
| C.123 | Staffing | various dates | 1969-80 |

C.124-C.144

Financing bodies

Arranged in an alphabetical sequence (incomplete).

See also C.339.

C.124	National Institute of Alcoholism and Alcohol Abuse	1971
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C.125-C.128	Onassis Foundation	1980-81
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Correspondence and papers re Krebs's candidature for the Olympia Prize awarded by the International Board of the Onassis Foundation.

Krebs's name was put forward for the prize by Sir Michael Stewart.

C.125	December 1980-January 1981
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|-------------|------------------------|---|
| C.126 | February-March 1981 | |
| | | Includes draft statements about Krebs and his work by Krebs himself and Sir Michael Stewart. |
| C.127 | April-June 1981 | |
| | | Includes the statement of recommendation submitted to the International Board. |
| C.128 | | Miscellaneous ms. and typescript material <u>re</u> Krebs's candidature. |
| | | Includes statement of honours received by Krebs. |
| C.129-C.139 | Rockefeller Foundation | 1954-61, 1964-65,
1969, 1971, 1977 |
| | | A chronological sequence of correspondence <u>re</u> grant applications, annual expenditure, visits from officers of Rockefeller Foundation to Oxford, etc. |
| | | Rockefeller Foundation support for Krebs's research, initiated in Germany in 1932, continued in Oxford until 1965. |
| C.129 | December 1954 | |
| | | Krebs's application for a grant to Oxford University for biochemical research under his direction, to replace the grant to Sheffield University returned on Krebs's acceptance of the Oxford Chair. |
| | | In his letter of 10 December Krebs explained what had happened to the equipment bought under previous grants at Sheffield. |
| C.130 | 1955 | |
| | | In January Krebs was awarded a grant of up to £80,000 for a period of 5 years. |
| C.131 | 1956 | |
| C.132 | 1957 | |
| C.133 | 1958 | |

Oxford

- C.134 January-May 1959
- During this period Krebs made a major grant application to the United States Public Health Service and was advised by G.R. Pomerat, Associate Director of the Rockefeller Foundation, to await the outcome of this application before making a further request for Rockefeller funding.
- C.135 September-December 1959
- In a letter of 6 November Krebs announced the award of a United States Public Health Service grant and discussed informally a further grant from the Rockefeller Foundation. Appendix I of this letter is a list of the permanent and semi-permanent staff of the Biochemistry department and Appendix II is a survey of current investigations.
- C.136 1960
- In January Krebs made a formal application for a grant in support of research in the Oxford Biochemistry Department.
- C.137 1961
- C.138 1964-65
- C.139 1969, 1971, 1977
- C.140-C.144 Travenol Laboratories Limited 1976-82
- Includes material re conferences as well as research funding.
- C.140 1976-77
- Conference on parenteral nutrition, Bermuda, 15-20 May 1977.
- Correspondence with organisers re arrangements, publication of proceedings, etc. Bibliog. 364.
- See also F.303.

C.141 1978

Correspondence and papers re financial support for research on parenteral nutrition.

C.142 1979

Correspondence re parenteral nutrition research project and symposia at Oxford and Glasgow which Krebs was unable to attend.

Letter from Sir David Cuthbertson, 10 July, reflects on early penicillin research in light of G. Macfarlane's biography of Howard Florey.

C.143 1979-82

Correspondence re possibility of a staff member studying for a doctorate in Krebs's laboratory and research funding.

C.144 1980

Correspondence re research problems and Kiawah Island (South Carolina) symposium on branched chain amino and ketoacids.

Oxford

C.145-C.182

Miscellaneous

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|-------------|--|
| C.145-C.149 | Home Office licences |
| C.150-C.157 | Suppliers of research materials |
| C.158-C.182 | Requests to visit/work in Krebs's laboratory |

C.145

Home Office licences Various dates 1954-81

Correspondence and papers re applications for and renewal of licences, statutory return of experiments, etc., for Krebs and his collaborators. For earlier material re Home Office licences see B.68.

C.145	1954-67	C.148	1973-76
C.146	1967-70	C.149	1978-81
C.147	1971-72		

C.150-C.157

Correspondence with suppliers of scientific material for Krebs's research, presented in a chronological sequence. Not indexed. Similar material is sometimes included with the research projects in Section D.

C.150	1954-58	C.154	1969
C.151	1960-67	C.155	1970-71
C.152	1968(1)	C.156	1973-76
C.153	1968(2)	C.157	1977-80

Oxford

C.158-C.182 Correspondence re requests to visit or work in Krebs's laboratory, arranged in a chronological sequence. There is similar material in the correspondence folders.

C.158	1954-55	C.172	1973 (1)
C.159	1956-57	C.173	1973 (2)
C.160	1958	C.174	1973 (3)
C.161	1960	C.175	1974 (1)
C.162	1961	C.176	1974 (2)
C.163	1962-64	C.177	1975 (1)
C.164	1965-67	C.178	1975 (2)
C.165	1967-68	C.179	1976 (1)
C.166	1969	C.180	1976 (2)
C.167	1970 (1)	C.181	1977
C.168	1970 (2)	C.182	1978-81
C.169	1971		
C.170	1972 (1)		
C.171	1972 (2)		

Oxford

C.183-C.240

DEVELOPMENT OF SCIENCE AT OXFORD

During Krebs's tenure of the Whitley Professorship, he worked for a strengthening of the sciences at Oxford and his interest and involvement in this, especially in respect of the biological sciences, is attested by the very substantial body of correspondence and papers presented here. As a member of the Board of the Faculty of Biological Sciences Sub-Committee on the Development of Biology he took part in discussions on the establishment of new departments (C.183-C.189) and when the new quinquennial grant proved inadequate for the developments envisaged, played a leading role in informal discussions within the university on alternative sources of finance (C.190-C.201). There is material re a proposed Biology Centre (C.202-C.204) and the difficulties faced by the new Linacre Professor of Zoology, J.W.S. Pringle, in respect of the provision of adequate accommodation for him by the university (C.205-C.211).

Perhaps the development to which Krebs attached the most significance, however, was the establishment of molecular biophysics at Oxford (C.212-C.236) not only because of the inherent importance of the subject but also because he believed that the difficulties which had to be overcome before the successful establishment of the Laboratory of Molecular Biophysics in 1967 were characteristic of most major innovations in the university. The papers presented here chart the contribution of Krebs and J.W.S. Pringle to the establishment of the new laboratory and include copies of Pringle's own papers (C.219-C.227) made available as source material for Krebs's very substantial unpublished account of the history of molecular biology at Oxford (see C.229-C.234). Krebs provided an interesting but much shorter account in his autobiography (Rem. & Refl. pp.207-213). There is also a draft article on the same subject for the Oxford Magazine (C.228).

For published accounts by others which touch upon some of these questions see D.C. Phillips's memoir of W.L. Bragg (Biographical Memoirs of Fellows of the Royal Society, 25, 1979) and V. Wigglesworth's memoir of J.W.S. Pringle (Biographical Memoirs of Fellows of the Royal Society, 29, 1983).

For Pringle's own account see the copy of his lecture on Oxford Zoology at C.211.

C.183-C.189

Development of Biology, 1956-58

Correspondence and papers re the Board of the Faculty of Biological Sciences Sub-Committee on the Development of Biology.

The Chairman of the Sub-Committee was C.D. Darlington.

At a later date these papers were shown to J.W.S. Pringle.
See C.183.

C.183

'Memorandum from Professor Darlington: New Biology Departments', 20 November 1956.

2pp. duplicated typescript.

'Expansion of Biology in Oxford', 2 February 1957.

3pp. typescript memorandum by D.D. Woods.

Carbon of letter from W. Le Gros Clark to Darlington, 4 February 1957, with comments on Darlington's memorandum and points for his committee to consider.

Minutes of the meeting of the committee on the development of biology, 4 February 1957.

4pp. typescript.

Krebs attended this meeting.

C.184

Letter from D.D. Woods, 13 February 1957, enclosing two drafts of a document about a new department of chemical/general microbiology. Only one draft, described as the shorter version, was found with the letter.

Committee paper for meeting of 19 February 1957.

3pp. duplicated typescript.

Incorporates the longer version of Woods's memorandum on a new microbiology department and a memorandum by A.G. Ogston on physical biochemistry.

Copy of memorandum from W.O. James on the establishment of a department of plant physiology.

2pp. typescript, with covering letter, 21 February 1957.

- C.184 (Cont'd.) Copy of draft preamble 'which might contain suitable material for the report on the development of biology'.
2pp. typescript, with covering letter.
Sent to Darlington by Krebs, 28 February 1957.
- Memorandum on virology by K. Burton.
1p. duplicated typescript.
- C.185 Committee papers for meetings of 6 and 26 March 1957.
Includes:
- Memorandum by Professor Burn on a New Department of Experimental Medicine.
- Memorandum by Professor Darlington on a Department of Genetics.
- Comments of Professor Pickering on Professor Burn's memorandum on a New Department of Experimental Medicine.
- Memorandum by Professor Sir Wilfrid Le Gros Clark: Biological Science in Oxford: The case for a Department of Human Biology and Physical Anthropology.
- Memorandum by Professor Sir Howard Florey on a new department of Medical Bacteriology.
- C.186 Memorandum on the relations of biology with the physical sciences by C.D. Darlington, 1 April 1957.
2pp. typescript.
- Comments by A.G. Ogston on Darlington's memorandum, 7 April 1957.
3pp. typescript (carbon).
- Letters from R. Barer to Krebs, 11 and 12 April 1957, commenting on the memoranda by Darlington and Ogston.
- Paper on biophysics by Barer and Ogston, n.d.
4pp. typescript (carbon).

Oxford

- C.186 (Cont'd.) Draft statement on growing points of biology and medicine.
6pp. typescript.
Sent to Krebs by J.H. Burn.

Drafts for 'Preamble' by Darlington, 24 April 1957, and Krebs.

- C.187 Committee papers and correspondence re meetings of 2 and 31 May 1957.
Includes:
Memorandum by N.T.J. Bailey on a new department of Biometry.
Statements on Virology by Sir Macfarlane Burnet and K.M. Smith.
Copies of interim report of sub-committee and preamble.

- C.188 'Notes on the development of science and medicine at Oxford',
27 September 1957.
1p. duplicated typescript. By Krebs.

Untitled 3pp. typescript draft re conclusions of sub-committee
and discussions with Chairman of the University Grants Committee
by two of its members. n.d. but probably late 1957.

'Biology development', 25 November 1957.
1p. typescript note. By Darlington.

Draft statement on growing points of biology and medicine,
23 December 1957.
3pp. duplicated typescript, with ms. note 'this contains ammunition,
but is not a suitable call for action'.

Oxford

C.189

Committee papers for meeting of 28 May 1958:

Minutes of last meeting of 31 May 1957.

Report of Committee on the future of the Physical Sciences in Oxford, 19 January 1958.

Memorandum from Professor L.R. Wager: 'Developments in the Geological Sciences - Proposals for Departments or Sub-Departments of Geophysics, Geochemistry and Geomorphology'.

Copy of report of the sub-committee on the Development of Biology and Medicine. Virtually identical with interim report at C.187.

C.190-C.201

'Oxford's needs in science', 1957-61.

Correspondence and papers re informal discussions within the university arising from what was considered the inadequacy of the new quinquennial grant for providing much-needed scientific and other development at Oxford. Discussions centred on identifying the particular areas of science for development and the desirability of a public appeal to help finance them.

In addition to Krebs, the principal participants were:

B. Bleaney
Lord Bridges
A.L.C. (later Lord) Bullock
J.H. Burn
C.D. Darlington
Sir William Deakin
H.W. (later Lord) Florey
E.R.H. (later Sir Ewart) Jones
D. (later Sir Douglas) Veale
L.R. Wager

In April 1958 a memorandum on Oxford's needs in science was sent by Krebs to the Vice-Chancellor for consideration by Council. Apparently there was no action at the time because of the appeal for St. Catherine's College, though Krebs made an informal approach for financial support for Oxford science to British Petroleum, which came to nothing.

In 1960 Krebs approached the Wellcome Foundation re funding for the type of development envisaged in the memorandum on Oxford's needs in science. Although encouraged by the Foundation to make a proposal in respect of the biological sciences he had been unable to do so by late 1961 because of the uncertainty of suitable building sites.

See also C.338.

C.190

June-July 1957

On 8 July a meeting was held at Corpus Christi College to consider whether industry, commerce and private individuals should be approached for money for university development.

Folder includes the notes Krebs prepared in advance of the meeting - 'not used since Registrar organised discussion in his own way' - and an account, also by Krebs, of what took place at the meeting.

Krebs agreed to provide a statement outlining the kind of developments in biology and medicine for which any funds collected might be used.

Oxford

- C.191 August-September 1957
- Includes letter (September) from J.M. Hammersley on how industrialists would react to a general request to finance extensions of academic work at Oxford and what kind of cooperation would be needed between industry and the universities in the future.
- C.192 October-December 1957
- Includes notes of discussions on 1 October and 22 November and drafts of ideas on growing points of biology and medicine.
- C.193 January-February 1958
- Includes statement on growing points in Geology and related sciences, note of discussions on 24 January, draft statement of Oxford's needs in science, 30 January, and notes on and drafts of letter to The Times.
- C.194 April 1958
- Includes drafts of covering note and memorandum on Oxford's needs in science sent to the Vice-Chancellor 22 April, for consideration by Council.
- C.195 May 1958
- Two drafts of Krebs's statement at Council meeting, 5 May.
- C.196 June 1958
- Includes material re meeting at the British Petroleum Company Offices about fund-raising for a new college (St. Catherine's), 10 June, and subsequent approach to a director of BP, Sir Percival Waterfield, about support for scientific development at Oxford from the oil company.
- Folder also includes additions to the memorandum of 25 May 1958 on the developments in the geological sciences, 16 June. By L.R. Wager.

- C.197 July 1958
- Includes material re meeting between representatives of the University, including Krebs, and the Chairman of the University Grants Committee, Sir Keith Murray, and Krebs's approach to BP for financial support for Oxford science.
- C.198 1959-60
- Note of discussions between Krebs and Registrar re external financial support for scientific development, 19 September 1959.
- Brief exchange between Krebs and Sir George Pickering, re a copy of the memorandum on Oxford's needs in science for Sir Harold Himsworth, October 1959.
- Brief exchange between Krebs and L.R. Wager re earlier correspondence relating to possible financial support from BP, May 1960.
- C.199 April-May 1960
- Material re meeting between Krebs and Wellcome Trustees, 28 April, about possible financial support for the development of the growing points of science at Oxford, as set out in the memorandum on Oxford's needs in science.
- Includes draft notes on research laboratories for developing the growing points of science and new biological laboratory.
- C.200 October-November 1961
- Brief correspondence re Wellcome Trust funding for proposed Biological Sciences Centre.
- C.201 Undated ms. and typescript notes and drafts found with Oxford's needs in science material.

Oxford

C.202-C.204

Biology Centre, 1962

Correspondence and papers re the Board of the Faculties of Medicine and Biological Sciences Committee on the proposed Biology Centre.

C.202

February

Includes a summary of the previous history of the question.

C.203

March

'Memorandum on the proposed biology centre', 1 March. By J.W.S. Pringle.

2pp. typescript.

'Memorandum on the Biology Centre'. By G.C. Varley.

2pp. typescript.

'Notes on the Biological Centre'. By G.L.B[rown].

3pp. typescript.

'Further note on the Biology Centre'. By J.W.S. Pringle.

1p. duplicated typescript.

Memorandum of points to be decided, 9 March. By Krebs.

3pp. typescript.

'Points for Discussion', 15 March. By C.D. Darlington.

2pp. typescript.

'Note on the proposed Biology Centre', 15 March. By G.W. Pickering.

1p. typescript.

Draft note of points for discussion, 16 March. By Krebs.

2pp. typescript.

Continued

C.203 (Cont'd.) Draft note of 'Dinner and committee meeting of biological centre', 19 March. By Krebs.
2pp. typescript.

C.204 April-June

Draft report of the committee on the proposed Biological Centre by G.C. Varley and related correspondence.

Also found with this material is a copy of a letter from Sir Henry Dale, 29 April 1960, re possible Wellcome funding for Oxford scientific development. See C.199.

C.205-C.211 Zoology, 1961-79

C.205-C.210 'Historical Documents regarding John Pringle'

Contents of a folder so inscribed divided into six folders for ease of reference.

The material relates to Pringle's appointment as Linacre Professor of Zoology, new accommodation for the Zoology department, the development of Zoological research in Oxford, etc.

C.205 January-March 1961

C.206 September-December 1961

C.207 February 1962

Includes material re candidates for readership in biophysics, 2pp. duplicated statement by the Vice-Chancellor, A.L.P. Norrington, on the Zoology building and 'Resolution on allocation of site for Zoology building', 4pp. typescript statement addressed to members of Congregation by J.R. Baker, W. Holmes and N. Tinbergen.

Oxford

- C.208 May-July, November 1962
Includes 3pp. typescript statement by Pringle entitled 'Crisis in Oxford', with Krebs's ms. comments.
- C.209 1963
Includes material re the development of biophysics and insect physiology research in the Zoology department.
- C.210 1964-67
- C.211 'Oxford Zoology 1961-79'
20pp. duplicated typescript with ms. note, 'John Pringle. Unpublished script of lecture given in June 1979 on his retirement'.
- C.212-C.236 Molecular Biophysics, 1956, 1958, 1962-67
- C.212 1956
Material re possible transfer of J.T. Randall's biophysics unit from King's College, London, to Oxford.
Folder includes copy of the Medical Research Council Progress Report of Randall's biophysics unit for 1951-55.
- C.213 1958
Material reflecting Krebs's continued interest in the further development of biophysics at Oxford.
He discussed the question with D.M.C. Hodgkin and sought the advice of M.F. Perutz.
Folder includes information re D.C. Phillips and copy of the Medical Research Council Progress Report of the Cavendish Laboratory Molecular Biology Research Unit, for 1956-58.

Oxford

C.214

1962

Krebs's typescript notes of discussions with D.C. Phillips, D.M.C. Hodgkin and senior members of the biochemistry department re possible transfer of Phillips and his collaborators from the Royal Institution to Oxford, September and October.

C.215

January-May 1963

Material re possible transfer of Phillips and his unit to Oxford, including exchanges of correspondence between Krebs and J.W.S. Pringle, Krebs and Phillips, Pringle and Sir Harold Himsworth.

Considerations included the availability of accommodation in the new Zoology building and the date of retirement of Sir Lawrence Bragg, Director of the Royal Institution.

Much of the material is photocopies.

C.216

June-December 1963

June material relates to a meeting of Krebs and Pringle with Bragg to discuss the transfer of the biophysics unit to Oxford upon Bragg's retirement in 1967. Krebs hoped that Phillips and his group would do some lecturing in Oxford before that date.

In September Krebs wrote to Himsworth to arrange a meeting to discuss further the future of molecular biophysics in Oxford and this meeting was held at MRC headquarters in October.

C.217

1964, 1965

1964 correspondence relates to lecture course by Phillips at Oxford during the Trinity term.

1965 correspondence relates to Phillips's discourse at the Royal Institution, 5 November.

C.218

1966

Includes letter from Phillips thanking Krebs for his part in making possible the move of Phillips and his team to Oxford and inviting Krebs to give an evening discourse at a Summer School on Molecular Biology and Biophysics to be held in Oxford 18-29 September.

- C.219-C.227 Photocopies of documents re detailed arrangements for D.C. Phillips and his biophysics research unit to come to Oxford from the Royal Institution, 1964-67.
- These documents are the correspondence and papers of J.W.S. Pringle re negotiations with Oxford University, D.C. Phillips, the Medical Research Council, Nuffield Foundation, etc.
- C.219 March-June 1964
- C.220 July-December 1964
- C.221 January-April 1965
- Includes letter from Sir Harold Himsworth to the University Registrar with the news that Phillips and his team had 'got out the structure of lysozyme' and that Sir Lawrence Bragg had provided a champagne celebration.
- C.222 May-June 1965
- C.223 July-August 1965
- C.224 October-November 1965
- C.225 December 1965
- C.226 January 1966
- C.227 March-July 1966, August 1967
- C.228 'Molecular biophysics at Oxford'
- 6pp. typescript draft, with slight ms. correction, intended for publication in the Oxford Magazine.
- Copies of letters from Krebs to J.W.S. Pringle and D.C. Phillips, May 1966, enclosing draft of proposed article. For Pringle's reply see C.210.

Oxford

- C.228 (Cont'd.) 1966 Hilary 7 issue of the Oxford Magazine in which the editor attributed the establishment of Molecular Biology entirely to the University administration.

It was this editorial comment which prompted Krebs to draft his article.

- C.229-C.231 'Documents Concerning the History of Molecular Biophysics at Oxford'

Typescript draft with ms. corrections and additions. Paginated pp.I-II, 1-102, including some original documents. The pagination is not continuous, presumably because Krebs intended to add further documents at a later date.

Krebs's preface (p.II) explains the nature of the documents:

'This is a collection of letters, of minutes of personal discussions, and of University papers, especially of the Board of Biological Sciences, linked by comments.

It is not a complete collection of material bearing on the history of the Laboratory of Molecular Biophysics. It includes only those aspects with which I was personally concerned as a participant or witness. The material is in a rough draft form. It requires editing and in some places checking of facts.'

- The typescript is divided into three folders for ease of reference.

- C.232-C.234 'Documents concerning the History of Molecular Biophysics at Oxford'

Clean typescript copy of the preceding divided into three folders for ease of reference.

- C.235 'Comments on the difficulties to keep Oxford science up to date, with reference to the history of Oxford science'

Typescript draft with ms. corrections, paginated pp.111a-123. Also clean typescript copy of the same.

The 'Comments' were a continuation or conclusion for the 'Documents'.

Krebs considered that the difficulties which had to be overcome to establish Molecular Biophysics at Oxford University were characteristic of the great majority of major innovations. He gave earlier examples of the struggles necessary to keep Oxford science up to date: the establishment of the University Museum, the Whitley Professorship of Biochemistry, the Clinical School, and the department of Nuclear Physics.

Oxford

C.236 Miscellaneous typescript drafts re Molecular Biophysics.

C.237-C.240 Miscellaneous, 1956, 1959-61

C.237 Debate in Congregation re resolution on the Keble Road Triangle development, 4 December 1956.

Copy of statement of proposer, P.D. Henderson, as sent to Krebs, with ms. note explaining why p.2 was missing.

Draft of Krebs's speech seconding the resolution.

Newspaper cuttings.

C.238, C.239 Quinquennial Application, 1962-67

C.238 Krebs's notes of meeting of sub-committee considering policy for next quinquennium, 16 December 1959.

1p. typescript and 1p. draft.

Memorandum on postgraduate education by G.W. Pickering, with brief related correspondence, February 1960.

Krebs's notes for meeting of Natural Sciences Committee of the General Board, 16 February 1960.

4pp. typescript, with a few ms. additions and corrections.

Interim report of Faculty Board of Biological Sciences Committee on Quinquennial Estimates. n.d.

4pp. typescript.

C.239 Board of the Faculty of Biological Sciences. Faculty expenditure: Quinquennial Application 1962-67.

2pp. duplicated typescript and appendices of statements by heads of department including Krebs.

The appendices are dated in February and March 1960.

C.239 (Cont'd.) Statements made by representatives of the Committee of Heads of Science Departments (including Krebs) at the discussions with the University Grants Committee on 9 November 1960.
3pp. duplicated typescript.

C.240

New university science building.

'The problem of planning university laboratories', 7 June 1961.
3pp. duplicated typescript and 6pp. typescript draft with ms. corrections.

The memorandum was prepared by R. Cecil, drawing on the experience of the Biochemistry Department in respect of its new extension.

'Planning of University Buildings', 7 July 1961.

2pp. typescript note of discussions. By Cecil.

'Comments on Messrs. Chamberlin, Powell and Bon's plan for the development of the Science Area'

4pp. typescript memorandum by Cecil, with covering letter from Krebs to the Registrar, 13 October 1961.

Oxford

C.241-C.334	UNIVERSITY REFORM
	With an introductory note
C.241-C.260	General correspondence and papers
C.261-C.273	Salaries
	With an introductory note
C.274-C.278	Schedule A Professorships
C.279-C.328	Committees and Commissions of Inquiry
C.329-C.334	Publications
C.335-C.389	GENERAL UNIVERSITY CORRESPONDENCE
C.335-C.361	Central administration
C.362-C.372	Electoral Boards
C.373-C.389	Libraries, departments, colleges and societies

For correspondence and papers re Krebs's election to the Whitley Professorship of Biochemistry, see A.555-A.566.

Oxford

C.241-C.334 UNIVERSITY REFORM

Although Krebs begins the chapter of his autobiography on Oxford by praising the university as 'in many ways a splendid place for academics, one of the finest in the world' (Rem. & Refl., p.193), he was also very conscious of its shortcomings and his involvement in attempts to rectify these is evidenced by the substantial body of surviving material presented here.

It is divided into a chronological sequence of general papers and correspondence on various aspects of Oxford reform and further sequences of papers on particular areas for reform such as university salaries and schedule A professors and on specific committees or commissions of inquiry.

For Krebs's articles on reform written for the Oxford Magazine, see C.329-C.334.

C.241-C.260 General correspondence and papers, 1958, 1961-68, 1973, 1979

The material is principally Krebs's dated typescript notes, but includes correspondence with the Registry and others, newspaper cuttings and other background material.

C.241 1958

Note by C.D. Darlington for the Visitorial Board on the demands for lecturing made upon visiting professors, 19 March.

C.242 1961

Includes undated notes found with 1961 material.

C.243 January-May 1962

C.244 June 1962

C.245 September 1962

C.246 March-June 1963

C.247 July-December 1963

Oxford

- | | |
|--------------|---|
| C.248 | January-April 1964 |
| C.249 | June-October 1964 |
| C.250 | 1965

Includes draft of memorandum on improving communication within the university and between the university and the outside world. |
| C.251 | 1966

'The difficulties in attracting staff in certain science subjects'

3pp. typescript draft, with related newspaper cuttings. |
| C.252 | July-August 1967

'Thoughts on occasion of retirement'

Intended as memorandum to General Board but never completed.

This is a sequence of mainly typescript notes setting out Krebs's views on the inability of the General Board, as then constituted, to foster excellence within the university, especially scientific excellence. |
| C.253 | September-December 1967 |
| C.254 | 1968 |
| C.255 | 1969-70 |
| C.256 | 1973, 1979 |
| C.257 | Miscellaneous undated ms. and typescript notes. |
| C.258, C.259 | Miscellaneous press-cuttings on various aspects of university reform and development including salaries, 1958-61.

Two folders. |
| C.260 | Press-cuttings on misgovernment and maladministration inside and outside the universities, mid-1960s. |

Oxford

C.261-C.273

Salaries, 1959-61

Krebs identifies in his autobiography (Rem. & Refl., pp.196-201) a number of problems relating to salary and income structure within the university, especially:

(1) the existence in the science departments of two classes of lecturer, those who enjoyed, in addition to their full-time university lectureship, a tutorial College Fellowship which brought considerable benefits in terms of income, status and amenities, and those who were without the all-important college attachment.

(2) the rigid age-tie of the salary scale and the absence of the grade of Senior Lecturer which made it impossible, Krebs argued, to recognise special merit by more rapid promotion, or promotion to a higher grade.

Krebs first raised the question of abolishing the age-scale in October 1959 but although he had the support of the Faculty Board of Biological Sciences concerned about the effect of the salary-income structure on the recruitment and retention of good staff, the General Board decided against action. Hopes for movement in the direction Krebs wished the university to go came in May 1960 with a government decision to make funds available through the University Grants Committee to universities which were having difficulty in attracting or retaining academic staff of requisite quality. Oxford was offered £14,500, 'to recoup ... expenditure incurred in paying salaries above the normal in order to recruit or retain staff'.

While the university authorities considered the offer, a committee of Heads of Science Departments, on which Krebs played the leading role, collected detailed information on the difficulties in staffing certain departments - information which formed the basis of a memorandum submitted to the General Board on 21 October 1960. The General Board recommended the rejection of the offer of money. Krebs openly challenged this recommendation in an article for the Oxford Magazine published 1 June 1961 and he was supported in this public campaign by an article in the following week's edition in which an anonymous demonstrator described how those without college affiliations were treated as 'useful second-class citizens' - Krebs had a hand in drafting this second article. Despite these efforts Congregation voted on 13 June to turn down the offer of the University Grants Committee.

Oxford

Krebs was reluctant to give up the fight over the university salary-income structure and published a further article in the Oxford Magazine in October 1961 in which he set out the inequalities between the incomes of Fellows and Non-Fellows. Although the article did not give rise to any action, the matters which concerned Krebs were considered by the Robbins Committee on Higher Education and the Franks Commission of Inquiry (qqv.). Krebs retained his interest in these questions over an extended period.

The papers, which include correspondence with the university authorities and academic colleagues, drafts of memoranda for the General Board, drafts of Krebs's speeches at the Hebdomadal Council and at Congregation, etc., are presented in a chronological sequence.

For drafts of the Oxford Magazine articles and related correspondence see C.329-C.334.

See also C.342-C.345, C.349-C.352.

C.261 1959

Includes Krebs's memorandum for the Biology Board on the salaries of university demonstrators (2 copies).

C.262 February, May 1960

Includes note of Krebs's remarks on salary supplementation at a meeting of the Hebdomadal Council, 22 February.

C.263 June 1960

Includes letter from Krebs to the President of Trinity College (A.L.P. Norrington), with information re the question of special supplementation of Demonstrators' salaries, note by Krebs on the UGC offer of flexibility money and two annotated copies of a memorandum on quinquennial policy, 1962-67, for consideration by Heads of Science Departments in respect of the visit of the UGC to Oxford, November 1960. Krebs kept the UGC material with that relating to salaries although it includes additional topics.

Oxford

C.264

July 1960

Heads of Science Departments sub-committee on salary scales (1).

The members of the sub-committee were Krebs, G.E. Blackman and E.R.H. (later Sir Ewart) Jones.

Folder includes drafts of circular sent by sub-committee requesting information about the adequacy of present salary scales in attracting and retaining first-rate staff. There are replies from Sir Alister Hardy, C. Clark, W.D.M. (later Sir William) Paton, H.W. (later Lord) Florey and others.

C.265

October 1960

Heads of Science Departments sub-committee on salary scales (2).

Replies to the sub-committee's circular from C.D. Darlington, D.H. Wilkinson and A. Thom, Krebs's ms. and typescript notes on the replies, duplicated statement of comments on the adequacy of university demonstrator scales and some (undated) background material on university salaries.

C.266

November 1960 (1)

Visit of Medical Sub-committee of the UGC to Oxford, 8 November 1960.

Brief correspondence, programme of visit, draft statements by Krebs on postgraduate education and research.

C.267

November 1960 (2)

Visit of UGC to Oxford, 9 November 1960.

Various drafts, notes on background material, etc., put together by Krebs re UGC visit.

Folder includes draft for Krebs's speech at UGC meeting, duplicated note on the discussion with the UGC for Committee of Heads of Science Departments and draft letter from Krebs and B. Bleaney (probably to the editor of the Oxford Magazine) re meeting between UGC and Heads of Science Departments.

Oxford

- C.268 December 1960
- Includes draft speech for Council meeting, 12 December, 'not delivered because item was adjourned', and draft of substantial paper by Krebs on the salaries of university demonstrators and lecturers : 'Comments bearing on the University Grants Committee's offer of selective supplementation and the General Board's proposal that the offer be rejected'.
- C.269 January-April 1961
- Includes duplicated typescript copy of Krebs's memorandum on the salaries of university demonstrators and lecturers and drafts of Krebs's speeches on the same subject at meetings of Council and Congregation.
- C.270 May 1961 (1)
- 'Notes on the use of flexibility'
- 1p. duplicated typescript, 1 May, attached to 'Corrected Copy' of Krebs's paper on the salaries of university demonstrators and lecturers.
- Photostat of report of standing committee on finance, 2 and 9 May, with record of interview of Krebs by the committee.
- 'Flexibility within the lecturers' scale: Communication from the General Board of the Faculties', 13 May.
- C.271 May 1961 (2)
- Draft notes for meeting of Council and correspondence with academic colleagues, the Registry and the UGC.
- C.272 June-July 1961
- Includes correspondence with the Registrars of Oxford and Sheffield Universities, copy of Oxford University Gazette with agenda for 13 June meeting of Congregation and Krebs's typescript note, heavily corrected, on the vote of Congregation on 'flexibility' funds.
- C.273 Printed university papers re salaries' question.

Oxford

C.274-C.278

Schedule A Professorships, 1961-64

Krebs advocated the replacement of the pyramidal structure of the large Oxford Science departments by the multi-professor type of departmental organisation he had admired in America (Rem. & Refl., pp.203-207).

The material includes correspondence, committee papers and Krebs's typescript notes and drafts.

For the creation of a second Professorship in Krebs's own department, see C.86-C.89.

C.274

March-July 1961

C.275

August-September 1961

Includes notes on the selection of demonstrators.

C.276

October 1961

C.277

1962-63

C.278

February-June 1964

Includes undated ms. note by D.D. Woods: 'Some ill-digested random points re Professors. (Transatlantic reading).'

C.279-C.328	<u>Committees and Commissions of Inquiry, 1961-68, 1980</u>
C.279-C.281	Committee on the relations between Colleges and the University
C.282-C.291	Robbins Committee on Higher Education
C.292-C.297	National Incomes Commission
C.298-C.328	Franks Commission of Inquiry

C.279-C.281	<u>Committee on the relations between Colleges and the University, 1961-63</u>
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* The material, principally Krebs's typescript notes reflecting on matters affecting relations between the Colleges and the University, is presented in a chronological sequence.

C.279	1961
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Includes copy of memorandum expressing the views of about 130 members of Congregation with full-time university, departmental or institutional appointments who were not Fellows of Colleges, November.

C.280	1962
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Includes 'Report of the Syndicate on the Relationship between the University and Colleges', Cambridge University Reporter, 13 March, annotated by Krebs.

C.281	1963 and n.d.
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Oxford

- C.282-C.291 Robbins Committee on Higher Education, 1961-63
- C.282, C.283 Correspondence with University Registry, Robbins Committee, academic colleagues, re memorandum prepared by Krebs, Krebs's oral evidence to the committee, etc.
- C.282 1961-62
- C.283 1963
- C.284 Early drafts of Krebs's memorandum to Robbins Committee.
- C.285 'Complete' draft of Krebs's memorandum, January 1962.
9pp. typescript draft, with six appendices.
- C.286 Draft of Krebs's memorandum with ms. comments of H.W. (later Lord) Florey and letter from Florey returning the draft, January 1962.

Clean typescript copy of the memorandum, January 1962.
- C.287 Krebs's verbatim evidence taken before the committee, 23 February 1962.

5pp. duplicated typescript and 1p. ms. corrections.
- C.288 Krebs's dated typescript and ms. notes on aspects of university reform especially the relationship between the colleges and the university, 1961-62.
- C.289 Miscellaneous ms. notes re Robbins Committee.
- C.290 Submissions to the Robbins Committee by others:

Agricultural Research Council
Association of University Teachers
Committee of Vice-Chancellors and Principals
of the Universities of the United Kingdom
The Institute of Physics and the Physical Society

- C.291 Miscellaneous newspaper cuttings and printed material re various aspects of university reform and development including salaries, found with Robbins Committee papers.
- Folder includes Commonwealth Relations Office Seventh Report of the Overseas Migration Board, December 1961,
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- C.292-C.297 National Incomes Commission, April-December 1963, February 1980
- Krebs's continued concern about Oxford salaries and in particular the difficulties in attracting first-rate staff to full-time university posts not carrying a college fellowship is reflected in his interest in the Commission's review of academic salaries.
- Krebs was one of a number of Oxford scientists who submitted memoranda to the Commission.
- The material is presented in a chronological sequence.
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- C.292 April-May
- Includes copy of memorandum submitted by C.D. Darlington, 'The consequences of the double standard of payment under the college system in Oxford'.
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- C.293 June
- Two drafts of the memorandum Krebs submitted to the Commission, 'Salaries of Oxford University Staff'.
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- C.294 July-September
- Includes Krebs's comments on the note submitted by the University Registry to the Commission.

Oxford

C.295

October

Includes copy of memorandum submitted by J.W.S. Pringle, 'Salaries of University Biologists', further material produced by Krebs commenting on the Registry's factual note on Oxford salaries and note by Krebs on undergraduate and postgraduate teaching in the biochemistry department.

C.296

November-December

Includes copy of Krebs's second memorandum in the form circulated to other parties by the Commission.

C.297

February 1980

Note by Krebs commenting on the work of the Commission.

Oxford

C.298-C.328

Franks Commission of Inquiry, 1964-68.

In February 1964 the Hebdomadal Council appointed a committee chaired by the Provost of Worcester College (Lord Franks) to consider the recommendations and criticisms in the Robbins Report on Higher Education which particularly affected Oxford. The committee's terms of reference were wide-ranging, extending 'not only to the organisation and activity of the University but also to the teaching arrangements of the Colleges' (Report of Commission of Inquiry, I, p.17). The committee issued general and specific invitations to persons and organisations to submit written evidence which might help them in dealing with any of their terms of reference and sent out questionnaires on aspects of academic policy and university organisation. It was made clear that all written evidence apart from replies to questionnaires addressed to individuals would be made available to the public (Report, I, p.13).

Krebs was involved as a member of an ad hoc sub-committee in preparing the Heads of Science Departments' response to the Commission's July questionnaire on teaching and research (C.298, C.299). He also prepared in October his own very extensive memorandum of written evidence on the organisation of science at Oxford (C.302-C.307). He was not able to submit this memorandum, however, because he was unwilling to have it made public. Instead, in November, he submitted a short memorandum which sought unsuccessfully to change the Commission's policy on the question of confidentiality (C.308). It was not until the end of January 1965 that Krebs submitted a major memorandum to the Commission (C.309) - a memorandum substantially different in character from that prepared in October 1964.

In 1966 the Commission issued a report of its findings with a large number of recommendations. In his autobiography Krebs expressed his disappointment that so very few had actually been implemented by the university (Rem. & Refl., pp.202-3).

See also A.195.

- C.298, C.299 Heads of Science Departments Sub-committee on Franks Commission, 1964.

In June the Commission of Inquiry sent a letter to the Chairman of the Committee of Heads of Science Departments (followed by a detailed questionnaire in July) requesting written evidence on various aspects of academic policy. At its meeting of 13 July the Committee of Heads of Science Departments appointed a sub-committee to draft a reply to the Commission's questionnaire and all heads were invited to send short replies to the Chairman for the sub-committee's consideration. Krebs was a member of the sub-committee.

The material presented here is a chronological sequence of committee papers including copies of the heads' replies.

- C.298 June-July 1964

Includes copies of the replies and comments on the questionnaire by D.D. Woods, W. Hume-Rothery, R.C. Oldfield, R.E. Peierls, C.A. Coulson, and C.D. Darlington, and draft of Krebs's answers to Franks's questionnaire, misdated 15 July 1965.

- C.299 August-September 1964 and n.d.

Includes comments on the questionnaire by J.W.S. Pringle and D.H. Wilkinson, summary of comments received and draft replies to the questionnaire.

- C.300 Correspondence with the Franks Commission, 1964-66

Includes letter from Lord Franks, 8 December 1964, replying to Krebs's request that the Commission reconsider the rule that all their evidence should be public.

For the memorandum in which Krebs's request was set out, see C.308.

- C.301 Correspondence with J.E. (later Lord) Vaizey and R.N.W. (later Lord) Blake re Oxford reform and the Franks Commission, November and December 1964.

The correspondence arose because of Krebs's comments (in his memorandum on confidentiality submitted to Franks in November) on articles by Vaizey and Blake in the Oxford Magazine and Oxford respectively.

Oxford

- C.302 'Comments concerning the organisation of science at Oxford',
October 1964.
- 'Complete' 60pp. typescript memorandum with ms. note by Krebs:
'Intended for Franks Committee [sic] but not accepted because
of the confidentiality I asked for'.
- C.303 'First draft' of section 16 of the preceding: 'Concepts to be
clarified'.
- At least part of this was written as early as 1962 for another
purpose.
- C.304, C.305 'Final Draft'
- C.304 Typescript draft with ms. additions and corrections of sections
1-13 of Krebs's October 1964 memorandum on the organisation
of science at Oxford.
- C.305 Typescript draft, with ms. additions and corrections of sections
15-23 of the memorandum.
- C.306, C.307 'Early Incomplete draft'
- Typescript draft of part of Krebs's memorandum with ms.
corrections and additions.
- This appears to be a revision of the 'complete' October 1964
draft and may have been undertaken because of the confidentiality
question. (See C.302.)
- Two folders.

Oxford

- C.308 'Memorandum submitted to the Commission of Inquiry by H.A. Krebs', November 1964.
- 3pp. typescript with covering letter.
- Krebs explains why he feels unable to submit the major memorandum he has completed and asks the Commission to reconsider their decision not to accept confidential evidence.
- Folder also includes various ms. and typescript drafts relating to the memorandum submitted.
- C.309 'Comments on the organisation and administration of a Science Department', 29 January 1965.
- 15pp. typescript and 2pp. appendix.
- This is the major memorandum actually submitted to the Commission by Krebs. He describes it, in his first sentence, as 'written in response to an informal request from a member of the Commission'.
- C.310-C.312 Miscellaneous ms. and typescript notes from a folder inscribed '1963-64. FRANKS'.
- The material is presented in a chronological sequence as far as possible and divided into three folders for ease of reference.
- C.313-C.315 A sequence of dated ms. and typescript notes, January 1963-March 1965.
- The material is divided into three folders for ease of reference.
- Krebs may have put this material together in connection with the evidence he gave before the Commission in person. See the original folder preserved at C.313.
- C.316-C.318 Miscellaneous ms. and typescript notes and drafts re Franks Commission. A few are dated in 1964 and 1965.
- 3 folders.

Oxford

- C.319, C.320 Submissions to Franks Commission by others.
- C.319 Report of evidence submitted by Hebdomadal Council and General Board, June 1965.
- 52pp. duplicated typescript.
- Folder also includes 1p. ms. note found with report of evidence.
- C.320 Draft report to the Franks Commission from the postgraduate students of the Biochemistry Department.
- Unidentified draft submission annotated by Krebs.
- C.321 Copies of supplementary numbers of Oxford University Gazette, 20 January and 12 May 1965, re Franks Commission.
- There is marginal emphasis and underscoring by Krebs.
- C.322 A sequence of dated typescript and ms. notes commenting on the Franks report, June 1966-April 1967.
- The report was published in May 1966.
- Folder also includes 2pp. duplicated typescript statement, 16 June 1966, re attitude of Trinity College to the Franks report and initialled A.L.P.N [orrington] and 1p. duplicated typescript statement, 30 June 1966, on the 'General Board Comments on the Proposals of the Franks Commission', by J.W.S.P [ringle].
- C.323 Brief exchange of correspondence and note of discussions on Oxford reform between Krebs and J.R. Maddox, February-March 1967.
- Found with preceding material.
- C.324 Hard-backed notebook. Unpaginated with many pages unused.
- This notebook which was found with the Franks material is in the same format as those in which Krebs recorded his research at Berlin, Altona and Freiburg and may be the missing volume noted at D.10. Pages have been torn from the front of the notebook.

Continued

Oxford

- C.324 (Cont'd.) Krebs used this notebook for jotting down his ideas on various aspects of Oxford reform which he may have intended to use for an article in Nature or the Oxford Magazine or a course of lectures. There are references to both the Robbins and Franks reports.
- Dated entries run between 11 November 1967 and 7 February 1968.
- Loose items have been removed and preserved in separate folders.
- C.325 Krebs's ms. and typescript notes found in C.324 above. Some of these are identified as notes for proposed lectures. There is also material on Schedule A Professors dating from 1962, and on 'Democracy' and the 'Effectiveness of Postgraduate Teaching' from November 1967.
- C.326 Soft-backed 'exercise book' found in C.324 above.
- Krebs used this notebook for jotting down his ideas on university government and academic leadership, July-September 1967. Pages have been torn from the book.
- C.327 Newspaper cuttings found in C.324 above.
- Subjects include Oxford reform, democracy and the organisation of science.
- C.328 Miscellaneous press-cuttings found with Franks material.
- C.329-C.334 Publications, 1960-62, 1964, 1967
- Drafts of articles by Krebs and others for the Oxford Magazine, and related correspondence.
- For other material re Oxford Magazine see C.28, C.228 and C.267.
- C.329 1960

Oxford

- C.330-C.332 1961
- C.330 'The Flexibility of Salaries'
- Drafts of Krebs's article published 1 June.
- C.331 'Oxford life as seen by a University Demonstrator appointed from outside'
- Drafts of article by W. Bartley, later Professor of Biochemistry at Sheffield, published 8 June.
- The article was heavily revised by Krebs and appears anonymously.
- C.332 'The salaries of demonstrators'
- Correspondence and draft of article, published October.
- C.333 1962, 1964
- 1964 material is a letter to the editor submitting a letter for publication on college taxation.
- C.334 1967
- Material re Krebs's letter on graduate supervision fees published 17 February, including printed version of letter.

C.335-C.389 GENERAL UNIVERSITY CORRESPONDENCE

C.335-C.361 Central administration

C.362-C.372 Electoral Boards

C.373-C.389 Libraries, departments, colleges and societies.

C.335-C.361 Central administration

A chronological sequence of correspondence and papers with officers of the University, academic colleagues, etc. re the Biochemistry Department, and the general affairs of the university, kept together by Krebs as his 'University files'.

C.335 1954

Includes material re the qualifying examination in German for undergraduates offering Biochemistry in the Final Honour School of Natural Science.

C.336 1955

Includes material re Gotch Memorial Prize, General Board grant, bench fees and the provision of scientific equipment for the university (electron microscope) and department (recording spectrometer).

C.337 1956

Brief correspondence re Japanese research student.

C.338 1957

Includes material re higher degrees, including A.G. Ogston's comments on a memorandum of C.D. Darlington about the training of students for higher degrees and re a cooperative effort of science professors to raise money for the university. With a memorandum by Krebs on university finance.

For the cooperative effort to raise money, see C.190-C.201.

C.339 1958

Includes material re removal expenses, support for Krebs's research from the United States Public Health Service and radiation hazards.

The question of removal expenses led Krebs to prepare a memorandum on the financial situation of the higher income groups in the university. One of the two copies in this folder has the marginal comments of E.R.H. Jones.

C.340 February, May 1959

Includes material re the future of Astronomy in the university and the staffing requirements of the Biochemistry Department.

C.341 June 1959

Agenda and committee papers for Board of the Faculty of Biological Sciences meeting, 9 June.

C.342 June-July, December 1959

Includes material re the University Demonstrator scale and the relation between salaries in Oxford and in other universities. There is a copy of a memorandum by Krebs on the salaries of university demonstrators.

C.343 January 1960

Includes material re Biochemistry Department staffing and expenditure and salaries in Oxford generally.

C.344 February-March 1960

Includes material re salaries and staffing in the department and the university generally.

C.345 May-June, October 1960

Includes material re academic salaries, Biochemistry Department appointment and technicians in the department.

Oxford

C.346 1961

Exchange of correspondence re Laboratory of Human Nutrition.
See also C.94-C.96.

C.347 February-May 1962

Includes Krebs's offer of resignation from the Hebdomadal Council and his note of the future space requirements of the Biochemistry Department in response to a request from the University Surveyor.

C.348 June 1962

Includes note on college teaching and memorandum for the General Board on the lecturing obligations of readers, lecturers and demonstrators. Amongst the material associated with the memorandum are a heavily corrected draft, the report of the committee appointed (by the Board of the Faculty of Biological Sciences) to consider the duties of readers, lecturers and university demonstrators, 11 June, with Krebs's ms. comments, and a note by Krebs on the functions of professors and readers dated 15 July 1961.

C.349 July, October-November 1962

Includes material re Council papers, academic salaries, departmental estimates and animal house accommodation.

C.350 January-May 1963

Includes Krebs's memorandum on the payment of extra fees to full-time university teaching staff.

C.351 November-December 1963

Includes material re payment of fees to lecturers teaching in a department other than their own.

Oxford

- C.352 January-June 1964
- Includes material re salaries, staffing and appointments.
- C.353 July-December 1964
- Includes material re the transfer of financial responsibilities for research projects from research councils to the university and the Schedule A Professorship of Chemical Microbiology.
- In his letter to the Registrar of 5 October, Krebs raised the question whether a take-over of the Cell Metabolism Research Unit should be considered for 1967 when he was due to retire.
- C.354 1965
- Correspondence re arrangements for the resignation of a member of the department and the transfer to his new university of equipment bought from outside grants.
- C.355 1966
- Includes memorandum on future developments in the Biochemistry Department.
- C.356 1967
- Correspondence re inclusion in Krebs's last annual report of a special section on the transfer of responsibilities to his successor, and a draft of the special section.
- Folder also includes a ms. note by Krebs (1979) which relates to his 1967 Annual Report.
- C.357 1969
- Draft letter to the Chairman of the General Board re current practice of selecting candidates for appointments to readerships, with draft paper, dated 4 December 1967, on the Biology Readership Committee.
- Krebs's letter of resignation from the Electorship of the Sibthorpian Professorship of Rural Economy and of the Directorship of the Nuffield Institute.
- For Biology Readership Committee, see C.368-C.372.

Oxford

C.358 1970

Includes 12pp. typescript letter from Krebs to the Secretary of the General Board on the corruption 'in a subtle way' of the higher academic administration of the university. Krebs was encouraged to put his views on paper by the question of the use of fees by postgraduate students who received all their instruction in his laboratory and contended that the university administration was 'grossly biased towards channelling moneys to Colleges and College Fellows'.

C.359 1977, 1979

1977 material is a letter re financial arrangements for the Metabolic Research Laboratory.

1979 material includes correspondence re a proposed 'German House' in Oxford and 2pp. typescript note of Krebs's discussions with the Chairman of the General Board on fees for postgraduate supervision.

C.360 1980

Correspondence re the finances of the Metabolic Research Laboratory in general and the use of fees paid by postgraduate students in particular.

C.361 1981

Continuing correspondence re financial arrangements for the Metabolic Research Laboratory and fees for graduate supervision.

Oxford

C.362-C.372 Electoral Boards

C.362-C.367 Board of Electors to the Waynflete Professorship of Physiology,
1959-60, 1967.

The material, which consists of correspondence, committee papers
and Krebs's typescript notes on the merits of the candidates,
relates to elections in 1959-60 and 1967.

C.362-C.364 1959-60

C.362 September-November 1959

C.363 December 1959

C.364 January 1960 and n.d.

C.365-C.367 1967

C.365 March-May

C.366 June

C.367 July, September and n.d.

C.368-C.372 Board of Faculty of Biological Sciences, Ad Hoc Committee
on Readerships, 1965, 1967-69.

C.368 1965

Details of applicant.

C.369, C.370 1967

Agenda of meeting and details of applicants.
2 folders.

C.371, C.372 1968-69

Correspondence, agenda, details of applicants and report of
committee.

2 folders.

Oxford

- C.373-C.389 Libraries, departments, colleges and societies
- C.373 Bodleian Library/Radcliffe Science Library, 1955, 1958, 1963-64
- C.374 Nuffield Department of Clinical Biochemistry, 1960-61, 1971
1960-61 material relates to equipment grant for new laboratory.
1971 material relates to appointments.
- C.375 University Laboratory of Physiology, 1965
- C.376 Miscellaneous invitations for Krebs to attend lectures and seminars
in other Oxford departments, 1955, 1967-68, 1972, 1978-79.
1967-68 material relates to a course in autoradiography techniques
and includes brief related scientific correspondence and notes.
- C.377 Keble College, 1970
Centenary Appeal.
Trinity College, 1958-59, 1968, 1970-71, 1978
Ms. notes on Fellows by D.D. Woods, n.d.
Miscellaneous correspondence with Fellows and Presidents
(in alphabetical order).
- C.378 St. Catherine's College, various dates 1961-78, 1980
1961-63 material is minutes of the committee on St. Catherine's
College of which Krebs was a member.
- C.379 Ashmolean Club, 1971, 1974
Invitations to meetings and list of members (1971).

Oxford

C.380-C.389 Secure Retirement Association Limited, 1970-71

The Association was founded to provide in Oxford, 'apartments and amenities' for retired professional men and women. The prime mover was Dr. W. Ritchie Russell and Krebs was involved from an early stage in the planning.

The material, correspondence, committee papers, etc. is presented in a chronological sequence.

C.380	July, October 1970
C.381	November-December 1970
C.382	January-February 1971
C.383	March 1971
C.384	April 1971
C.385	May 1971
C.386	June 1971
C.387	July 1971
C.388	August-September 1971
C.389	October, November 1971, and n.d.

SECTION D RESEARCH D.1 - D.569

INTRODUCTION TO SECTION D

D.1 -D.45 LABORATORY NOTEBOOKS

With an introductory note

D.46 -D.100 INDEXED NOTES AND MEMORANDA

With an introductory note

D.101-D.514 RESEARCH PROJECTS

With an introductory note and a list of contents

D.515-D.548 MISCELLANEOUS NOTES

D.549-D.569 BIBLIOGRAPHICAL REFERENCES

This Section is confined to Krebs's scientific research, essentially on various aspects of metabolism. Section E deals with his work on more general science-related topics, and includes memoranda, notes, research ideas and annotated background material of similar type. For additional material on Krebs's wartime research, especially on nutrition, see Section B.

Research

As with the various engagement and personal diaries and jotters in Section A, so here the sub-divisions above correspond more to convenience and/or chronology than to any essential difference of content.

The most straightforward category is the sequence of Laboratory Notebooks (D.1-D.45). These are hardbacked notebooks of a traditional kind in which Krebs and his collaborators recorded data and experimental results. Even here, there are problems of dating, and complications arising from Krebs's habit of intercalating loose pages of notes, correspondence and other more or less related material (see the introductory note to D.1-D.45), a practice which threatened to reduce the original notebook to an over-strained outer shell.

Later, and certainly after his move to Oxford, Krebs began to keep his manuscript notes on loose pages or on dictated cassettes which were intended to be - and often were - typed up on standard octavo paper, dated, and kept with related correspondence, bibliographical and printed matter, records of discussions and information received, data and results, drafts, and all other miscellaneous material accumulated for research in progress. These are the basis of all the other categories in Section D, and, *mutatis mutandis*, Section E.

The Indexed Notes and Memoranda (D.46-D.100) were received in ring-back or clamped folders and binders, made up to incorporate research material, by Krebs or under his direction. It is possible that the task of making up the folders was often overtaken by pressure of active research, or that they were cannibalised and broken up to allow Krebs to remove material for use in research, writings or lectures. At all events, some incomplete bundles, part-indexed or with items missing, were received in plastic envelopes (see the introductory note to D.46-D.100).

The material designated as Research Projects (D.101-D.514) was received in boxes of various sizes and format whose only common denominator was that they were too small for the job. Some of the boxes, and of the folders within them, had descriptive titles by Krebs, and these have been retained and quoted in inverted commas in the relative entries, though their overflowing contents have often been redistributed

Research

in smaller units for ease of handling and reference. There is a significant difference here from the 'Indexed Notes and Memoranda' in the inclusion of a higher proportion of laboratory results and data, instructions for experiments and discussions with collaborators such as L.V. Eggleston, R. Hems, M. Stubbs and many visiting scientists, and extensive drafts for lectures and publications. The study of the latter, incidentally, makes clear the way the research notes were used as quarries for published work, being discussed, re-drafted, superseded and eventually incorporated over a considerable timespan. There is also a much larger component of background material, some annotated by Krebs. The presentation adopted is chronological from the first date of the records found under the relevant topic heading (see the introductory note).

The Miscellaneous Notes (D.515-D.548), though no different in essence from the 'Indexed Notes', were either received in very crammed folders simply inscribed 'Memos', or found scattered elsewhere in the collection. Some quite clearly refer to specific research topics (mitochondria, isolated liver cells, etc.) while others are more general and less easy to assign. Some are undated and some are illegible. In many cases, it would seem largely a matter of chance that they had remained undistributed among the indexed folders or the research boxes.

ADDENDUM

Attention is drawn to D.9A the laboratory notebook of K Henseleit, August 1931-January 1933, covering the period of collaborative research on the ornithine cycle, which complements Krebs's own notebooks at D.9, D.10.

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D.1 - D.45 LABORATORY NOTEBOOKS

These are all hardbacked notebooks presented in a chronological sequence, 1926 - 48, 1962 - 64, 1970 - 71. They cover Krebs's research at Berlin, Altona and Freiburg (in a set of standard format D.1 - D.10 (part)), Cambridge (D.10 (part) - D.13), Sheffield (D.14 - D.38) and Oxford (D.39 - D.45; a few books only, as Krebs had then adopted a different method of note-taking). A few books are by collaborators or assistants. With these few exceptions, all the books, in German and English, are in Krebs's hand, often with re-workings and corrections, and many with indexes at front, rear or both. Several have letters or information pasted in and most have loose pages of notes, diagrams, correspondence, etc. intercalated at various points; the more significant of these items have been removed for safety to separate folders adjoining the original book. The pages of most are numbered and this, with Krebs's indexes, simplifies the location of particular experiments or results. The books are thus a rich source for the progress of Krebs's research, though it should also be stressed that the diaries and 'jotters' in Section A were very frequently used by Krebs, especially in later life, to record his thoughts on technical as well as general and personal matters.

Several of the books were received with numbered labels stuck on to the front cover, it is not known when or by whom. These labels, sometimes incorrect and in any case not extending to the full range of the material, have been ignored in the chronological presentation here adopted. Krebs's own contemporary numbered sequence for his Sheffield notebooks (Books 2 - 7 only) has, however, been preserved at D.14 - D.21.

Books D.1 - D.12 are all in German.

Research

- D.1 Notebook inscribed 'Krebs' on front cover. Pages numbered 1-192, with a thumb-index at rear which incorporates a few additional unnumbered pages. There is a selective list of contents on the last page (W-Z) of this thumb-index.

The work is mainly on the oxidation of fructose. Experiments run 7 May-28 October 1926. There are a few intercalated loose pages, and a copy of Krebs's paper on carbon monoxide and haem catalysis (Bibliog. 18. Rem. & Refl. p.37). Includes notes and corrections in ink and pencil, charts and diagrams pasted in (and some loose), etc.

See D.4 for research related to above paper.

- D.2 Notebook inscribed 'Dr. Krebs' on front cover. Pages numbered 1-192, with some intercalated loose pages of tabulated results.

The work is mainly on serum, 18 November 1926-2 March 1927. Includes experimental results, in ink and pencil, some marked in red pencil for use in publication. Also notes on the literature.

- D.3 Notebook inscribed 'Dr. Krebs' on front cover. Pages numbered 1-384, with several intercalated loose pages at various points.

Continuing work on serum, 3 March-21 November 1927. Includes experimental notes, tabulated results in ink and pencil, some marked in red pencil for publication. Perhaps related to Bibliog. 14, and also to work on copper in blood (Bibliog. 15, 17).

Intercalated between pp.100 (13 April) and 101 (20 April) is a 1p. ms. note, 17 April [Easter Sunday] of ideas on blood, with a ms. 'Note added 31.12.70' discussing earlier research.

- D.4 Notebook inscribed 'Krebs' on front cover, and with name and address of Kaiser Wilhelm Institute of Biology inside front cover. Pages numbered 1-384, with lists of contents at front and rear.

The work is mainly on oxidation and on trace elements, 12 December 1927-19 June 1928. Experimental results, many diagrams pasted in, markings in red pencil for publication, several referring to the paper on haem catalysis (Bibliog. 18, see also D.1).

Research

- D.5 Notebook inscribed 'Krebs' on front cover. Pages numbered 1-288, with a few loose pages, and a list of contents at rear.
- Material runs 22 June 1928-19 January 1929. Experimental data, tabulated results, diagrams pasted in, work in ink and pencil.
- N.B. This book has been incorrectly labelled '6' though the dates of the material follow in sequence from D.4.
- D.6 Notebook inscribed 'Krebs' on front cover. Pages numbered 1-288 with a few loose pages.
- Continuing work on cysteine and other enzymes, 21 January 1929*-26 November 1929. Experiments, results, tabulated data, diagrams pasted in.
- * Wrongly indicated 1928 for January entries.
- N.B. This book has been incorrectly labelled '5' though the dates of the material follow in sequence from D.5.
- D.7 Notebook inscribed 'Krebs' on front cover. Pages numbered 1-288, with a few loose pages. There is a selective list of contents on pp.279-280.
- Work on various catalysing agents, 29 November 1929-17 August 1930. On p.165 is a note 'Ende in Dahlem' and p.170 is headed 'Altona'. Krebs was given notice to leave Warburg's laboratory by 31 March 1930, and accepted a post with Professor Leo Lichtwitz at the Municipal Hospital of Altona, beginning work there on 1 May 1930 (Rem. & Refl. pp.40-43).
- D.8 Notebook inscribed 'Krebs' and 'Protokolle 1.9.30 bis 1.4.31' on front cover. Pages numbered 1-480. There is a list of contents on an unnumbered page at front, and summary of ideas and points of interest at rear of book. Several loose pages (mainly patients' records) are inside front cover, and there is also an offprint of Krebs's paper on proteolytic enzymes (Bibliog. 27. Rem. & Refl. p.44).
- Work mainly on protein catalysis, 3 September 1930-25 March 1931. Experiments, calculations, tabulated results, notes on the literature, diagrams pasted in, several pages marked in red pencil for publication.

Research

D.9A

Notebook of K. Henseleit

Henseleit was a medical research student at Freiburg and Krebs's collaborator on the research and publications on the ornithine cycle (Rem. & Refl., p.47).

The material is in the form of a photocopy made by Krebs from the original notebook in the possession of Henseleit's widow and given by him to Professor F.L. Holmes who has now (March 1986) made it available for the collection.

The original was a hardback octavo identical to Krebs's notebooks at D.9, D.10. The content is also similar, including notes on the literature, tabulated observations and results. Occasionally Krebs's notebooks have a reference to 'Henseleit' and the ensemble is an interesting example of collaborative research.

The photocopy as received is in two parts:

Part I August 5, 1931 - January 22, 1932, pp.1-177.

Part II January 23, 1932 - January 6, 1933, pp.178-380
+3pp. list of contents.

Research

D.9

Notebook inscribed 'Krebs' and 'Protokolle' on front cover. Pages numbered 1-576, with a few loose pages and a list of contents at rear of book.

This, together with part of D.10 below, covers Krebs's period as 'Assistant' in the Department of Medicine at Freiburg University, at the invitation of S. Thannhauser (Professor of Medicine). He took up his post at Freiburg on 1 April 1931 and remained there until he left Germany in June 1933. It was during this period that he made his first major research discovery, of the ornithine cycle of urea synthesis (Rem. & Refl. pp.43-60).

Work mainly on urea synthesis, 12 May 1931-2 November 1932.

D.10

Notebook inscribed 'H.A. Krebs' and '1932-1934' on front cover. Pages numbered 1-576, with a few loose pages. There are several lists of contents, on pp.260, 270 and at rear.

This is a particularly interesting volume, beginning with the continuation of work on the ornithine cycle, many pages being marked in red pencil for publication (pp.1-241). Pasted into p.244 is Krebs's hotel bill at the Black Forest resort of St. Peter and (intercalated) a later bill when he revisited the same pension with his family in 1972. P.260 is headed 'Cambridge', the first entry being dated 4 July 1933 (Rem. & Refl. pp.62-63, 86-87).

Entries run 4 November 1932-11 April 1933 (from Freiburg), 4 July 1933-24 March 1934 (from Cambridge). All the entries are in German.

N.B. At rear of book is a note by Lady Krebs 'Vol. II missing', dated 29 July 1982. See C.324.

D.11

'Minute Book' (in poor condition). Pages numbered 1-300, with detailed list of contents pp.286-289.

Work on amino acids, synthesis of glutamine. Experiments, tabulated results, notes on the literature, in ink with many annotations and re-workings in red ink, perhaps for publication. First entry is 9 April 1933 (in error for 1934)-14 January 1935.

All in German except for an account of 'Unit and determination' on pp.294-5.

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D.12

'Minute Book' (in poor condition). Pages numbered in red pencil 1-266 but work continues to end of book.

Continuing work mainly on amino acids in mammalian tissues, 14 January-30 October 1935. Experiments, diagrams pasted in, etc. in black and red ink as in D.11 above. All in German except for a few notes mainly at end of book (see entry for 2 October on work with D.D. Woods).

There are a few loose pages of notes and calculations inside and at rear of book. More significant letters and items found loose in the book have been removed and now appear at D.13.

In addition, several items of interest are pasted into the book at various points. On p.25 is a notice of a Biochemical Society meeting, 15 February 1935, at which Krebs communicated two papers on 'Deamination of amino acids in mammalian tissues' and 'Synthesis of glutamine in mammalian tissues'. On p.199 is letter from Ella Sachs Plotz Foundation, 5 June 1935, awarding Krebs £150 for purchase of apparatus. On pp.230, 231 is correspondence, July 1935, re Krebs's application for post as Lecturer in Pharmacology, Sheffield, with letter from E.J. Wayne (Rem. & Refl. pp.93-94, see also D.13). Material at rear of book includes notice of a Biochemical Society meeting, 15 November 1935, at which Krebs presented a collaborative paper with N.L. Edson and A. Model on 'The synthesis of uric acid in birds'. (Bibliog. 52, 53, 57.)

D.13

Correspondence and papers originally found loose in D.12. Includes correspondence with Cambridge University re Krebs's employment of a personal assistant, further correspondence with E.J. Wayne on Krebs's appointment at Sheffield (October 1935), correspondence with colleagues on research and publications, 1935-36.

Also included are press-cuttings on the difficulties of learning the English language (Rem. & Refl. p.89).

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- D.14 Notebook inscribed 'Book 2' inside front cover. There is no 'Book 1' of this sequence surviving. Pages numbered 1-233 with detailed list of contents on pp.232-33. Pages 162-63 are left blank, with a note 'Journey to Palestine' 21 March-21 April 1936 (Rem. & Refl. pp.90-91).
- Work on aspects of metabolism, 22 October 1935-8 June 1936. Experiments, results, notes on the literature, in ink and pencil, with several corrections and re-workings in red ink.
- D.15 Notebook inscribed 'H.A. Krebs', 'Book 3' inside front cover. Pages numbered 1-232 with list of contents on pp.230-232 and a few loose pages.
- Entries run 8 June-30 September 1936, covering experiments, tabulated results, comments, notes on the literature, etc. in ink and pencil, with several corrections and re-workings in red ink.
- Pasted into pp.162, 163 are letters from colleagues forwarding specimens.
- D.16 Notebook inscribed 'H.A. Krebs. The University Sheffield' and 'Book 4' inside front cover. Pages numbered 0-226 with detailed list of contents on pp.224-25 and some loose pages and items pasted in.
- Entries run 2 October 1936-8 March 1937, covering experiments, tabulated results, diagrams pasted in, many annotations and re-workings in red ink, several pages annotated in red pencil for paper or publication.
- On p.32 is pasted notice of a Biochemical Society meeting on 17 October 1936 at which Krebs gave a paper on 'The oxidation breakdown of carbohydrates'; between pp.96 and 97 is a notice of a Chemical Society meeting on 26 November 1936 at which Krebs spoke on 'The biological breakdown of carbohydrates'.

Research

D.20

Notebook inscribed 'Book 7' inside front cover, on which also appears address of Å. and M. Öström, co-authors of three papers with Krebs in 1939 (Bibliog. 72, 73, 74). Pages numbered 1-314, with several lists of contents to particular series of experiments on pp.40-41, 312 and inside back cover. There are several loose pages and items pasted in. Additional correspondence and items kept loose in book have been removed and now appear at D.21.

Entries run 20 July 1938-30 March 1939, p.34 being left blank and headed 'Summer Holiday Congress Zürich' (Rem. & Refl. p.102). Experiments, charts and diagrams pasted in, summaries of results, notes on the literature, etc., many with annotations and re-workings in red ink.

On p.110 is pasted a note on results (in German), no author or date, but almost certainly from Å. Öström; on p.143 is pasted a letter from Öström, 5 January 1939; on p.145 is pasted a letter on analysis of results, 16 January 1939; on p.147 is pasted a notice of a Biochemical Society meeting on 13 January 1939 (at Leeds) at which Krebs spoke on 'Intermediary Metabolism of Proline' and introduced other papers by his collaborators; on p.244 is pasted acknowledgement of four papers submitted for publication in Biochem. J., 1 May 1939; on p.267 is pasted an acknowledgement of paper submitted for publication in Enzymologia (Bibliog. 77).

D.21

Correspondence and papers originally found loose in D.20. Includes letter from L. Farkas (ref. p.71), letters from colleagues, results and notes.

N.B. This marks the end of Krebs's own sequence of numbered notebooks 2-7 (no.1 is missing).

D.22

Notebook similar in format to the preceding sequence, but kept in other hands by collaborators or assistants. There are a few notes by Krebs, e.g. dated 16 March 1937. Pages not numbered; some loose pages intercalated and at rear of book.

Entries run 25 July 1936-16 March 1937, and 2 March-2 May 1938.

Research

- D.23 Red notebook inscribed 'H.A. Krebs. The University, Sheffield' inside front cover. This is Krebs's own notebook but does not form part of the numbered sequence with which it overlaps in date.
- Pages not numbered; there is a list of contents on inside back covers. Some loose pages of notes, and a letter on vitamin B₁ results, at rear of book.
- Entries run 25 January 1937-8 March 1938. Experiments, charts and diagrams pasted in, many annotations and re-workings in red ink. Includes work on insulin, vitamin B₁, citrate, etc.
- D.24 Black soft-cover notebook, 6-20 April 1938.
- Few pages used, mainly on depancreatized specimens. A few notes at rear of book, not all in Krebs's hand.
- D.25 Black soft-cover notebook, small format, labelled on cover 'Note Book 1938. Amino Acid Determinations with Chloramine T'.
- Earliest entry 31 August 1938. Entries 11-28 October are not in Krebs's hand but many have annotations by him.
- A few notes on last page of book.
- D.26 Hardbacked notebook, pages numbered 1-312 with 'Index and Summary' on p.311 and index of relevant experiments in earlier notebooks on p.4. There are several loose pages of notes and calculations, and some items pasted in. Additional correspondence and items originally kept loose in book have been removed and now appear at D.27.
- Entries run 17 July 1939-26 April 1940; much of the work is on pigeon breast muscle. Acknowledgement for publication of Bibliog. 81, 82 is pasted in at p.165, and of Bibliog. 83 at p.213.
- D.27 Correspondence and papers originally found loose in D.26. Many are notices of meetings and publications (including meeting of Biochemical Society at Sheffield, 17 February 1940, organised by Krebs), letter from B. Mendel and telegram from H. McIlwain about his move to Sheffield.

Research

- D.28 Hardbacked notebook, relating to work on risks of exposure to fluorides in industry, carried out on behalf of the Home Office (Rem. & Refl. p.124).
- Both ends of book used. Entries run 23 November 1939-1 February 1940 (few pages used). See D.29 below.
- D.29 Loose pages of records on subjects examined, tabulation of data, originally kept in D.28 above. Also included here is a 1p. note on citric acid synthesis.
- D.30 Hardbacked notebook, pages numbered 1-232, with list of contents and note of spending from Rockefeller grant on inside back cover, list of experiments to be done on propionic acid on p.230. Several loose pages intercalated, and items pasted in.
- Entries run 6 June 1940-28 January 1941. Experiments, tabulated results, references, notes on the literature, etc., with many annotations and re-workings in red ink.
- Pasted on to p.31 is notice of a 'holiday school of Biochemistry' at which Krebs was to speak, arranged for July 1940, and a letter from F.C. Happold cancelling it; intercalated on pp.106-07 are acknowledgements of two papers submitted to Biochem. J. (Bibliog. 86, 88); pasted on to pp.119, 187 are notices of Biochemical Society meeting on 5 October and 7 December 1940, at which Krebs gave papers; pasted on to p.134 is correspondence on propionic acid culture.
- D.31 Hardback notebook, pages numbered (on recto only) 1-115. There is a brief summary of contents on inside back cover and summaries of work on staphylococcus and on propionic acid bacterium on pp.35 (verso) and 37. A few loose pages of notes. More extensive notes and other items originally left at front and rear of book have been removed and now appear at D.32.
- Entries run 27 January 1941-4 August 1942. Experiments, tabulated results, references, notes on the literature, in ink and pencil, with annotations and re-workings in red ink and a note on p.90 verso of material used in paper in Adv. Enzymol., 1943 (Bibliog. 98).

Research

- D.32 Correspondence and papers originally found loose in D.31. Includes notices of meetings of Biochemical Society, 29 September 1941, 10 July 1942, at which Krebs gave papers, correspondence with colleagues and one personal letter, 1p. ms. note on proposed alterations to Department of Biochemistry at Sheffield, various experimental data and tabulated results.
- D.33 Hardback notebook, pages numbered 1-237 (only) though work continues to end of book. Several loose pages intercalated, and items pasted in. Additional loose items found at rear of book are now at D.34.
- Entries run 5 August 1942-18 December 1944. Experiments, analyses, tabulated data, with some annotations and re-workings in red ink.
- Pasted on to p.231 is a notice of a Biochemical Society meeting, 29 September 1944, at which Krebs gave papers on acetoacetic acid and patulin.
- D.34 Miscellaneous shorter notes and correspondence originally found at rear of D.33. Includes letter from Vice-Chancellor, Sheffield University, authorising Krebs to accept consultancy with I.C.I. to investigate sulphanilamides, 11 September 1943.
- D.35 Brown hardback notebook, inscribed 'H.A. Krebs' inside front cover (in poor condition). Pages numbered 1-76 (only) though work continues to end of book. Some loose pages intercalated. Additional correspondence and material found as loose pages have been removed and now appear at D.36.
- There is no index; the early entries deal with sulphonamides, the majority with metabolic factors.
- Entries run 3 January 1945-6 November 1946. Experimental results, tabulated data, extensive notes on the literature at rear of book.
- D.36 Correspondence and papers originally found loose in D.35. on various topics. Includes material on Krebs's and Eggleston's paper on acetoacetic acid (Bibliog. 104), Krebs's and Speakman's paper on sulphonamides (Bibliog. 109) and letter (1p. only) from J. Tošić re collaborative paper (Bibliog. 110).

Research

- D.37 Brown ledger-type notebook inscribed 'H.A. Krebs. The University, Sheffield' inside front cover. Pages numbered 1-123 (only) though work continues beyond here and is resumed at rear of book. There is a 'Summary' on p.37 (to June 1947). There are several intercalated pages of notes, and many items pasted in (diagrams, data, correspondence, etc.). Additional correspondence and material found as loose pages have been removed and now appear at D.38.
- Entries run 7 November 1946-9 September 1948. Experiments, tabulated results, summaries and comments on results, in ink and pencil with annotations and re-workings in red ink. There is a note on p.115 of Krebs's attendance at 'Oxford International Physiological Congress, 21-25 July 1947'. At rear of book, several pages of references, notes on the literature, laboratory rules for Department of Biochemistry, notes on 'Interviewing young applicants', 'Examination questions for Cambridge Tripos', apparatus (one on a sample of Krebs's famous 'Unfit for Medical Research' writing-paper).
- Pasted on to p.12 is correspondence with E.J. Morgan, 1946; on p.23 is notice of 'Joint meeting with Leeds biochemists', April 1947; on an unnumbered page is letter from C.R. Harington on synthetic compounds, September 1947; on an unnumbered page is a letter from T.S. Stevens, n.d.; on an unnumbered page is a letter from H. Lüthi, September 1947.
- D.38 Correspondence and papers originally found as loose papers in D.37. Mainly on specimens and equipment; includes letters from S. Ochoa, C.R. Harington (1949).
- D.39 Small black notebook inscribed 'H.A. Krebs. Oxford' inside front cover. Few pages only used, at both ends of book. Work is on 'Control of Gluconeogenesis' and entries run 22 December 1962-3 April 1963.
- See D.40.
- D.40 Two sets of typescript and ms. notes of experiments to be conducted on gluconeogenesis, various dates 1961-62, and 1963. Originally folded in D.39.

Research

D.41-D.43 Three hardback notebooks kept by M.E. Woodford, 1962-64.

D.41 'Book I' August-December 1963.

D.42 'Book II' December 1963-18 April 1964 (wrongly inscribed April 1963 on cover).

D.43 'Book III' April-July 1964 (wrongly inscribed 1963 on cover).

All the work relates to research on Fructose 1, 6-diphosphate in striated muscle. Krebs and Woodford published a collaborative paper on the subject in 1965 (Bibliog. 230).

D.44, D.45 Two large ledger-type notebooks kept by R.A. Hawkins, 1970-71.

D.44 'Determinations' Various dates, July 1970-July 1971.

Experiments for July 27 (no year given) has a ms. note by Krebs.

D.45 'Results' Data on brain metabolites.

The work refers to the research for the collaborative paper by Krebs, Hawkins and Williamson on 'Ketone-body utilization by adult and suckling rat brain in vivo' (Bibliog. 299).

Research

D.46 - D.100

INDEXED NOTES AND MEMORANDA

This designation has been adopted to cover heterogeneous material, mostly received in various folders and binders but some in plastic envelopes (D.94 - D.96) or as loose papers (D.59, D.84, D.89), the majority bearing a manuscript or typescript list of numbered items included therein. These items may comprise ms. notes or typed-up narratives by Krebs on articles read, experiments performed by him, by colleagues in his research teams or notified to him by others; ideas for research projects, lectures or publications; correspondence enclosing or accompanying information, specimens, preparations or results; reprints or press-cuttings of matters of immediate relevance; summaries of discussions with colleagues in the laboratory, at conferences or on visits. Almost all the material is dated, though the contents of any folder may extend over several years and is not presented in chronological order. Some of the folders have on the spine or cover a note of the main topic, but this is not always the case, nor do the items necessarily conform to the title. It is clear however that the topics kept separately in these folders by Krebs are closely related to or identical with the 'Research Topics' at D.101 et seq., and should be regarded as complementary to them.

It has not been considered advisable to retain the material within Krebs's original folders and binders, which were fitted with various types of metal clamp fasteners liable to rust and in any case under strain with the quantity of papers crammed inside. The material is now presented in sequences of one or more folders following Krebs's order and preserving his index and title where these exist. In addition, the summary indications of the original lists have been expanded where appropriate to give a little more detail of the contents. The correspondents are indexed where possible.

Research

- D.46 'Pyruvate kinase'
Contents of a ring-back binder so inscribed.
Assay results, bibliographical references, Krebs's notes.
Various dates, 1957-68.
With typescript index (3 items).
- D.47 'Drugs, substrates, antibodies'
Contents of a ring-back binder so inscribed.
Ms. and typescript notes on the literature, on experiments, on the
action of various substances, on enzyme induction by drugs. With
some related printed material. Includes note by Krebs dated
24 June 1963 on 'The question of purposefulness'.
Various dates, 1962-65.
With typescript and ms. index (10 items, of which no.9 is missing).
- D.48 'General notes on gluconeogenesis'
Contents of a ring-back binder so inscribed.
Ms. and typescript notes on the literature, on experiments by others,
Krebs's research ideas and drafts (includes work on Pasteur effect,
gluconeogenesis in lactation, adrenals, etc.). There are also corres-
pondence, related printed matter, experimental results by collaborator.
Various dates, 1962-65.
With typescript index (24 items).
- D.49-D.51 Contents of a bulky ring-back binder. No title, but no. 'I' on front
cover and inside front cover. There is no volume II, but D.52-D.54
were in a binder of the same format.
Ms. and typescript notes and drafts on various topics in gluconeogenesis,
enzyme activity, regulatory and feedback mechanisms. Also includes
notes on the literature, and on colleagues' findings, experimental results
by L.V. Eggleston and others, some related printed matter, correspond-
ence, graphs, etc. Some of the drafts are substantial, e.g. on 'Fuel
of respiration' (no.7 in sequence).
Various dates, 1960-65.
With typescript index (25 items, of which nos. 17, 18 are missing).

Research

- D.49 Index, items 1-5
D.50 Items 6-12
D.51 Items 13-16, 19-25

- D.52-D.54 Contents of a bulky ring-back binder. No title but same format as D.49-D.51

Ms. and typescript notes, mainly on aspects of gluconeogenesis and ketosis, metabolism of exercise, etc. Includes research ideas, comments on colleagues' results, related printed matter. Some of the drafts are substantial; item 8, 'Glucose requirements of the body', includes note of visit and discussion (18 January 1963) with E.J.H. Ford; item 16, 'Relations between gluconeogenesis and ketosis', contains notes over several years, 1961-64, includes 'comments by F. Lynen', and a sequence 'partly used at Harvard lecture'; item 23 is a substantial sequence, 1962-65, on 'alloxan diabetes'. Various dates, 1961-65.

With typescript index (31 items, of which nos.10 and 22 are missing).

- D.52 Index, items 1-9
D.53 Items 11-21
D.54 Items 23-31

- D.55 'Gluconeogenesis. Kidney 1'
Contents of a ring-back binder so inscribed.

Ms. and typescript notes on renal metabolism, including results, ideas, colleagues' results, notes on the literature, bibliographical references, correspondence. Various dates, 1961-65.

With typescript index (14 items, of which nos.1-5, 12 and 14 only are numbered. There is an additional item numbered 17).

Research

- D.56 'General gluconeogenesis. Emphasis on Energy 2'
 Contents of a ring-back binder so inscribed.

 Ms. and typescript notes, ideas, notes on the literature and on
 colleagues' work, results by L.V. Eggleston, printed matter, corres-
 pondence, discussion notes.
 Various dates, 1962-65.

 With typescript index (21 items, of which no.4 is deleted, nos.12 and
 19 are missing).
- D.57, D.58 'General gluconeogenesis. Enzymes 3'
 Contents of a ring-back binder so inscribed.

 Ms. and typescript notes, ideas, notes on the literature and on
 colleagues' results, printed matter, correspondence, bibliographical
 references. Item 7 is a substantial series, 1963-65, on adenylate
 kinase; item 13, with correspondence, is on DPN.
 Various dates, 1962-64.

 With typescript index (25 items, of which no.1 is missing).
- D.57 Index, items 2-14
- D.58 Items 15-25
- D.59 Loose pages of ms. and typescript notes on various factors affecting
 gluconeogenesis.
 Various dates, 1962-63.

 No index, but material is numbered 1, 2, 7, 9 and perhaps originally
 formed part of '4' in this sequence.
- D.60 'Subjects other than gluconeogenesis 5'
 Contents of a ring-back binder so inscribed.

 Ms. and typescript notes, results, printed matter.
 Various dates, 1962-65.

 With typescript index (13 items, of which nos.2, 3, 5, 13 are missing).

Research

- D.61 'Liver: glycogen, physiology'
 Contents of a ring-back binder so inscribed.

 Ms. and typescript notes, ideas, notes on the literature and on methods,
 bibliographical references, correspondence, discussions with colleagues.
 Various dates, 1962-65.

 With typescript index (12 items, of which nos.9, 10 are missing).
- D.62 'Notes on scientific visits'
 Contents of a ring-back binder so inscribed.

 Ms. and typescript notes of conversations with colleagues, or of papers
 heard, at conferences and meetings; mainly research in progress or
 projected, but includes a little personal material.
 Various dates, 1963, 1964.

 With typescript index (6 items).
- D.63 'Biochemistry notes'
 Contents of a spring-clamp binder so inscribed.

 Ms. and typescript notes, notes on the literature, discussions with
 colleagues, notes on visit to USA March 1968, printed matter.
 Item 10 is a note by G.K. Radda on Warburg's theory of photosynthesis;
 item 17 is Krebs's notes of a meeting of the Biochemical Society, 1967.
 Various dates, 1961-68.

 With typescript index (20 items, of which no.1 is missing).
- D.64 'Ketosis'
 Contents of a ring-back binder so inscribed.

 Ms. and typescript notes, correspondence, printed matter, bibliographical
 references, experimental results by T. Gascoyne, etc.
 Various dates, 1964-65.

 With typescript index (9 items).

Research

- D.65 'Free energy changes'
 Contents of a ring-back binder so inscribed.
 One item only, 1965.
- D.66 'Redox states and mitochondria'
 Contents of a ring-back binder so inscribed.
 Ms. and typescript notes and drafts, correspondence. Item 9 is a
 substantial draft, 10pp., on 'Redox State of Tissues and Cells', 1965;
 item 11 is 'Article on Hepatic Coma for Besman's new journal', 1967.
 Various dates, 1965-67.
 With typescript index (12 items, of which nos.1, 2, 3, 5, 6, 10 are
 missing).
- D.67 'Redox states'
 Contents of a ring-back binder so inscribed.
 Ms. and typescript notes and drafts, notes of discussions, on the literature,
 of further points for discussion, printed matter. Includes draft, 1966, for
 'Modena lecture' on 'Some aspects of mitochondrial organisation'.
 Various dates, 1965-67.
 No index, or numbering of items.
- D.68 'Pyridine nucleotide interrelations'
 Contents of a ring-back folder so inscribed.
 Ms. and typescript notes, research ideas, drafts, a little related
 printed matter.
 Various dates, 1966-68.
 With typescript index (17 items, of which nos.1, 2, 4, 6, 9, 13, 15,
 16 are missing).

Research

- D.69 'Pyridine nucleotide interrelations'
Contents of a ring-back binder so inscribed.

Ms. and typescript notes, research ideas, results and calculations,
laboratory results by colleague. Item 2 is on rat diets (1968).
Various dates, 1967-68.

With typescript index (10 items, of which nos.1, 3, 5, 8, 9, 10 are
missing). There is a ms. note by Krebs 'taken to USA' against nos.
8, 9 and 10).
- D.70, D.71 'Biochemistry'
Contents of a spring-clamp binder so inscribed.

Ms. and typescript notes and drafts, ideas for future experiments, notes
on the literature and on colleagues' results, correspondence, related
printed matter. Item 10 is correspondence and drafts on early work by
Rosenfeld on carbohydrates.
Various dates, 1966-73.

With typescript index (31 items, of which nos.2, 9, 25 are missing).
- D.70 Index, items 1, 3-8, 10-15
- D.71 Items 16-24, 26-31
- D.72 Contents of a spring-clamp binder. No title.

Ms. and typescript notes and drafts, research ideas, discussions with
colleagues, notes on the literature, experimental results by L.V.
Eggleston (annotated by Krebs), related printed matter. Item 2 is
7pp. draft for proposed work on amino acid degradation; item 10 is a
note of discussions on research, lectures, etc. during a visit to America,
October 1971; item 6 is a note of a discussion with Britton Chance,
March 1971.
Various dates, 1970-71.

With typescript index (24 items, of which no.3 is missing).

Research

- D.73 '1970-1971'
Contents of a spring-clamp binder so inscribed.
Ms. and typescript notes and drafts, discussions with colleagues, notes on the literature, ideas for research, correspondence, related printed matter. Item 13 (on diabetes and degenerative eye disorders) is dated 1964.
Various dates, 1970-71 (and on item 1964).
With typescript index (16 items).
- D.74 '1971'
Contents of a spring-clamp binder so inscribed.
Ms. and typescript notes and drafts. Several items are notes of discussions with colleagues on research projects and methods, during a visit to America in July 1971. Item 6 is ms. and typescript versions of a note on 'Blood substitutes' (August 1971).
Various dates, 1971.
With typescript index (7 items, of which no.4 is missing).
- D.75, D.76 '1971'
Contents of a spring-clamp binder so inscribed.
Ms. and typescript notes and drafts, research ideas, notes on the literature, discussions with colleagues, results, correspondence, related printed matter. Several of the items deal with work with J.B. Hoek and others on liver metabolism. Item 7 (on Rotenone) is dated 1968.
Various dates, 1968, 1970-71.
With typescript index (14 items, of which no.12 ('Blood substitutes' - see D.74) is missing). There is an additional unlisted item.
- D.75 Index, items 1-3
- D.76 Items 4-11, 13-14

Research

- D.77-D.79 Contents of a spring-clamp binder. No title.
Ms. and typescript notes and ideas, discussions with colleagues, bibliographical references, correspondence, related printed matter, notes on the literature, laboratory results. Item 23 is a bundle of notes, results and printed matter on fructolysis (1975).
Various dates, 1972-75.
With typescript index (33 items).
- D.77 Index, items 1-17
- D.78 Items 18-23
- D.79 Items 24-33
-
- D.80 Contents of a spring-clamp binder. No title.
Ms. and typescript notes and drafts, bibliographical references, research problems, discussions with colleagues, notes on Lipmann Symposium, July 1974 (Item 14), related printed matter, correspondence. Item 26 is a draft on equilibrium systems.
Various dates, 1972-75.
With typescript index (28 items).
-
- D.81-D.83 '1973'
Contents of a spring-clamp binder so inscribed.
Ms. and typescript notes and drafts, research ideas, notes on the literature, bibliographical references, comments on colleagues' results and ideas, related printed matter. Many items include correspondence or refer to discussions with colleagues (items 1, 3, 22-24, 32). Item 12 is 'Discussions at Copenhagen meeting 1973'. Item 20 is Krebs's introductory lecture at a meeting of the Society for Experimental Biology at Oxford, 1972, on 'Warburg on Measuring Rates'.
Various dates, 1970-73.
With typescript index (36 items).
- D.81 Index, items 1-11
- D.82 Items 12-20
- D.83 Items 21-36

Research

- D.84 Loose papers of notes, drafts, research ideas, results by L.V. Eggleston, 1969.
Mainly 1973.

Found inside the binder, but not part of the contents as itemised in the index.
- D.85, D.86 'Liver cells'
Contents of a spring-clamp binder so inscribed. This binder contained two sets of material each with a ms. index by Krebs, all relating to work on liver cells.
- D.85 Ms. and typescript notes, drafts, results, calculations by Krebs and collaborators, notes on the literature. Mainly on CO₂ buffers, and on lysine.
Various dates, 1973.

With ms. index (15 items, of which nos.6, 7, 8, 9, 11, 13 are missing).
- D.86 Ms. and typescript notes, drafts, results, correspondence, on isolated liver cells and on lysine.
Various dates, 1973.

With ms. index (11 items, of which nos.2, 3, 4, 5, 6, 8, 11 are missing).
- D.87 Contents of a spring-clamp binder. No title.

Ms. drafts, laboratory results and experiments, mainly by Krebs but some by collaborators, principally related to work on histidine, lysine and methionine. The dated notes are 1973-74.

With typescript index (6 items, not numbered).
- D.88 Contents of a spring-clamp binder. No title.

Ms. and typescript notes and drafts, notes on the literature, discussions on research projects, results, correspondence, related printed matter. Includes material on histidine metabolism, Crassulacae, lysine, etc.

With typescript index (12 items).

Research

- D.89 Loose pages of notes, drafts, printed matter, originally tucked into D.88 but not figuring in the index.
Various dates, 1973-75.
- D.90 Contents of a spring-clamp binder. No title.
Ms. and typescript notes and drafts, notes on the literature. There are a few notes on proline dated 1970, but most of the material is dated 1974 and deals with equilibrium reactions. Some of it, headed 'Indianapolis' probably refers to Krebs's lecture in 1974 (Bibliog. 341).
There is no index.
- D.91 Contents of a spring-clamp binder. No title.
Ms. and typescript notes and drafts, results, notes on books and articles, discussions with colleagues, correspondence, related printed matter, bibliographical references, research data from collaborators.
Various dates, 1974-77.
There is no index.
- D.92, D.93 Contents of a spring-clamp binder. No title.
Ms. notes and drafts, bibliographical references, notes on 'Valencia meeting' (1975), correspondence, printed matter including some on sociobiological problems. Item 21 is a substantial assemblage of material on chirality.
Various dates, 1975.
With typescript index (22 items).
- D.92 Index, items 1-20
- D.93 Items 21, 22

Research

- D.94 Contents of a plastic envelope, perhaps intended to be incorporated in a binder.
- Ms. notes and drafts, notes on books and articles, research ideas. Several items relate to evolution of metabolic cycles. Various dates, 1980-81, and some undated items.
- With typescript index (18 items, of which nos. 1, 2, 4, 11, 12, 13, 14, 17 are missing).
-
- D.95, D.96 Contents of a plastic envelope, perhaps intended to be incorporated in a binder.
- Ms. and typescript drafts, comments on ideas of others, notes on books and articles, printed matter and press-cuttings. Much of the material relates to the Dunham lectures given at Harvard in 1981 and to work on evolutionary theory. Various dates, 1980-81, and some undated items.
- With typescript index (21 items, of which nos. 11, 20 are missing).
-
- D.95 Index, items 1-10, 12, 13
- D.96 Items 14-19, 21
-
-
- D.97-D.100 Contents of three spring-clamp binders kept by Krebs specifically as 'Research projects' or 'Biochemical problems'. The contents do not differ significantly from others in the sequence which he identified by topic or by year. See also D.207 for similar material kept with the research projects in hand.
-
- D.97 'Research projects'
- Contents of a spring-clamp binder so inscribed.
- Ms. and typescript notes and drafts, notes on the literature, experimental results, correspondence, related printed matter; mainly on aspects of ketosis, and calcium effect on gluconeogenesis. Various dates, 1962-69.
- With typescript index (6 items).

Continued

Research

- D.98 'Biochemical problems'
 Contents of a spring-clamp binder so inscribed.

 Ms. and typescript notes and drafts, discussions with colleagues, research ideas and methods, notes on the literature, bibliographical references, results by L.V. Eggleston and others, correspondence, related printed matter. Item 3 (1968) 'General comment on redox work' is a draft for a talk or lecture.
 Various dates, 1968-70, except for item 20 'Saline Media' (1963) and item 21 'Alcaligenes' (1961).
 With typescript index (24 items).
- D.99, D.100 'Biochemical Problems 1969-70'

 Ms. and typescript notes and drafts, research ideas, discussions with colleagues, notes on the literature, experimental results, correspondence, related printed matter, bibliographical references. Item 5 (1969) is a draft on 'Changes in Redox State under Anaerobic Conditions'; item 22 (1970) is a note of discussions at 'Marburg Symposium'; item 25 (1970) is a substantial assemblage of material on 'microsomal mixed function oxidases'.
 Various dates, 1967-70.

 With typescript index (34 items, of which nos.10 and 27, both on proline, are missing).
- D.99 Index, items 1-9, 11-20
- D.100 Items 21-26, 28-34

Research

D.101 - D.514 RESEARCH PROJECTS

This covers the bulk of Krebs's research activity 1951 - 81. It is presented as a chronological sequence of topics, each dated from the first surviving notes or records. Krebs's own designations, where they existed on the original folders and boxes, have been retained. Un-named material has been supplied with an appropriate descriptive title on advice from Krebs's colleagues.

Some of the topics are very substantial, extending over a long time-span and covering research ideas, laboratory work by Krebs and others, multiple drafts for lectures and publications, discussions with colleagues, scientific and editorial correspondence, background and bibliographical material. Others are brief, perhaps just a note for possible future research or a collection of annotated offprints on a topic to be explored later. Generally speaking, however, this can be said to form the basic material for Krebs's research, lectures and publications. Efforts have therefore been made to link the work with the published papers, references being given in the form (Bibliog....) and also appearing in the Conspectus. Correspondents are indexed and colleagues identified where possible.

Research

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D.331-D.341	CALORIMETRY	1971-77
D.342	ACETYLGLUTAMATE	1972
D.343	UREA CYCLE	1972

Research

D.344-D.348	AMINO ACID ANALYSES IN LIVER CELLS	1972-74
D.349-D.358	GLUCONEOGENESIS AND UREA SYNTHESIS	1972-74
D.359-D.372	PENTOSE-PHOSPHATE CYCLE	1972-74
D.373-D.378	6-AMINO-NICOTINAMIDE	1972-77
D.379	COMPETITION BETWEEN SHORT- AND LONG-CHAIN FATTY ACIDS IN PERFUSED RAT LIVER	[1973]
D.380	SULPHONAMIDES	1973-74
D.381	FLUOROCARBONS	1973-74
D.382-D.395	OVER-MEDICATION	1973-78
D.396	CRASSULACEAE	1974
D.397	CARNOSINE	1974
D.398, D.399	SHUTTLES AND CARRIERS	1974
D.400-D.408	HYPERLACTATAEMIA AND LACTIC ACIDOSIS	1974
D.409-D.414	RENAL AMMONIA	1974
D.415-D.435	FOLATE / B ₁₂ / METHIONINE / HISTIDINE	1974-78
D.436	PENTENOATE	1975
D.437	L-GLUTAMATE TRANSPORT IN HEPATOCYTES	1975

Research

D.438, D.439	LACTATE	1975-76
D.440-D.444	METABOLISM OF BRANCHED-CHAIN AMINO ACIDS	1975-76
D.445	CHICK ENTEROCYTES	1977
D.446-D.449	PURINE SYNTHESIS	1977-81
D.450	GLUCAGON AND INSULIN IN BIRDS	1978
D.451-D.453	GLUTAMINE METABOLISM	1978-79
D.454	CALCIUM CONCENTRATION IN SALINE	1979
D.455-D.458	BENZOATE	1979-81
D.459-D.511	EVOLUTION OF METABOLIC PATHWAYS With an introductory note	1979-81
D.512	CITRATE CYCLE	1980
D.513, D.514	HEPATOCYTES	1981

Research

- D.101-D.111 TELEOLOGY 1951-54, 1961
- Krebs assembled ideas and references on the subject during 1951-52. He gave lectures and may have contemplated a more extended work (see D.104). His main published contribution (Bibliog. 168) was part of the Herter lectures given at Johns Hopkins University; he also gave a joint talk on 'Frontiers in Biochemistry' with F. Lipmann at a 'Smoker' during a meeting of the American Society of Chemists at Atlantic City during his extended visit to America in 1954.
- See also A.118, F.23-F.46.
- D.101 Notes and quotations from Ernst Cassirer: The Problem of Knowledge, 1p. headed 'Teleology' has a ms. note 'Discussion with Cassirer 23/8/51'.
- In Krebs's original folder, labelled 'Teleology'.
- D.102 Correspondence, 1951-52.
- Includes letter from F. Brücke on his great-grandfather, Ernst Brücke, whose work is widely quoted by Krebs in his lectures and writing.
- D.103 'Teleological Considerations in Biology'
- Two heavily-corrected ms. and typescript drafts, 10pp. and 13pp., the latter with a ms. headnote 'Lecture before Philosophical Society 22.2.52.'
- D.104 'Postscript. The teleological viewpoint in biology'
- 3 heavily-corrected ms. and typescript drafts, and final 7pp. typescript version, all with this title, using similar material to D.103 above. The drafts begin 'In this book the assumption is made ...' and refer to 'this chapter', but there is no substantial work by Krebs on the subject listed in the Bibliography.
- D.105 'Excursion into the borderland of biochemistry and philosophy'
- Heavily-corrected typescript and ms. drafts for lecture (Bibliog. 168).

Research

- D.106 Similar ms. and typescript drafts, no title or date but perhaps an earlier version of D.105.
- D.107-D.109 'Frontiers in biochemistry'
- 2 heavily-corrected ms. and typescript drafts, for talk with Lipmann at Atlantic City, with Krebs's carbon letter to Lipmann discussing arrangements. The talk has a ms. note by Krebs 'Good paper'.
- D.108 More fragmentary notes and drafts.
- D.109 Notes, references, background material.
- D.110, D.111 Later correspondence and papers, 1961.
- D.110 Correspondence with L. Rosenfeld on possible exchange of views on the subject. With a little background material.
- D.111 Krebs's notes and drafts on teleology, complementarity, etc., various dates May-September 1961. With a little background material.
- D.112 BUFFER SOLUTIONS
- Brief notes, references, data. n.d., c.1955. With related background material, some annotated.

Research

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| D.113-D.120 | STEERING AND FEEDBACK MECHANISMS | 1955-65 |
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| D.113 | 'Die Steuerung der Stoffwechselvorgänge' | |
| | Typescript draft, with a few ms. corrections and covering letter, October 1955. | |
| | (Bibliog. 179) | |
| D.114 | 'Regulation of Metabolism' | |
| | 17pp. typescript and ms. draft for lecture. With a ms. headnote 'Ann Arbor March 1960' and 'Jerusalem April 1936'. | |
| D.115 | 14pp. typescript lecture or article on regulation of metabolism. No date or place. | |
| | Included here are offprints of two of Krebs's publications on the subject (Bibliog. 178, 187). | |
| D.116 | Notes, drafts, discussions. Few dated. Includes note of discussion with H. Motz on origin of term 'feedback' 1955, and other notes, 1959, 1962. | |
| D.117 | Ms. and typescript bibliographical references. | |
| D.118 | Background material, some annotated. | |
| D.119 | Ms. notes on feedback mechanisms, 1963, 1965. With a ms. note by Krebs 'Regulation (earlier refs) collected for Physiol. Review (never written)'. | |
| D.120 | Background material, some annotated. | |

Research

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| D.121-D.124 | KETOGENESIS / PYRUVATE METABOLISM | 1955-56 |
| D.121 | Typescript draft with a few ms. corrections, and tables for an untitled paper; the accompanying experimental results have various dates, 1955-57. | |
| D.122 | Miscellaneous references, some dated 1964, and headed 'Deuel Conference paper'. | |
| D.123 | Brief correspondence on bovine ketosis, 1962.

Later notes and drafts, March-April 1965. | |
| D.124 | Offprints and background material, some annotated. | |
| D.125-D.128 | SPECIFIC DYNAMIC ACTION OF FOODSTUFFS | 1957-63 |
| | Only one publication on this topic is listed (<u>Bibliog.</u> 194), a paper given at the Rona Symposium. | |
| D.125 | Ms. and typescript notes and drafts, some dated 1957, 1958.

Heavily-corrected ms. and typescript drafts, some dated 1959 and referring to work of K.L. Blaxter. | |
| D.126 | Undated ms. and typescript drafts, bibliography, references, with a short ms. list of contents. | |
| D.127 | Later ms. and typescript notes, drafts, experimental results (by Krebs and some by P. Lund). Includes figures for publication, and a copy of <u>Bibliog.</u> 194 with updated bibliography. Various dates, 1961, 1962. | |
| D.128 | Correspondence and discussion with colleagues on experiments, techniques, results, 1960-63. Includes a little related background material and notes by Krebs of discussions. | |

Research

- D.129-D.131 ANTERIOR PITUITARY HORMONES IN KETOGENESIS 1959-62
- D.129 Correspondence with colleagues, institutions and firms about specimens and supplies for proposed research, 1959-62.
- D.130 Research notes and data, suggestions for experiments, bibliographical references, by Krebs and collaborator. August 1960-September 1961 (and one page later data, August 1966).
- D.131 Background material.
- D.132-D.138 KETOGENESIS / INSULIN 1959-65
- D.132 Ms. and typescript notes and drafts, references, discussions with colleagues (some on writing-paper of HMS 'Queen Elizabeth') none dated, correspondence (1964).
- D.133 Bibliographical references.
- D.134 Draft paper by Krebs, contributing to discussion arising from a presentation by C.H. Best on 'Metabolic problems involving the pancreas, insulin and glucagon'. n.d., latest reference 1959.
- D.135 'Biochemical Aspects of Ketosis'
- 11pp. duplicated typescript, with ms. headnote 'Amended Copy'. Perhaps earlier version of Ernest Dixon Memorial Lecture of same title (Bibliog. 193).
- D.136 'The Biochemical lesion in ketosis'
- 3 drafts (all different) of paper given at Chicago, March 1960, and published 1961 (Bibliog. 198), in Krebs's original folder labelled 'Ketosis in Chicago'.

Research

- D.137 Offprints of Krebs's published papers on the subject, kept with the material (Bibliog. 193, 198, 200, 236). Included here is his 'Inaugural Lecture: Some Aspects of Gluconeogenesis (The Relations between Gluconeogenesis and Ketogenesis)', given at the Third Symposium, on Energy Metabolism, of the European Association for Animal Production, held at Troon, May 1964 and published in the Proceedings (Academic Press, 1965); this publication is not listed in the Bibliography.
- D.138 Background material sent to or requested by Krebs, some annotated.
- D.139-D.157 REVERSAL OF OXIDATIVE PHOSPHORYLATION /
ATP DEPENDENT REACTIONS / SECONDARY EFFECTS
OF DINITROPHENOL 1960-64
- Contents of a box so labelled, comprising notes, drafts, correspondence, etc. relating to collaborative work principally with L.V. Eggleston (Bibliog. 199, 202, 208, 209). Krebs's original folders, some with descriptions, are at D.157. See also D.158 which is a continuation of similar work, also with Eggleston, but kept separately by Krebs.
- D.139-D.141 Ms. and typescript notes and drafts, almost all by Krebs but a few by Eggleston. Not all dated. Many relate to Bibliog. 199.
Three folders as follows:
- D.139 November 1960-July 1961
- D.140 September-November 1961 and undated 'Draft of LVE'
- D.141 April-December 1963 and undated.
- D.142-D.146 Experimental data, tabulated results, calculations, etc., chiefly by Eggleston but with many ms. notes, suggestions for further experiments, etc. by Krebs.
Five folders as follows:
- D.142 January-September 1960

Research

- D.143 November-December 1960
- D.144 January-October 1961
- D.145 1962
- D.146 August-November 1963, some headed '"Klingenberg" expts.'
- D.147-D.152 Publications and lectures
- D.147 Draft for slide lecture, 21pp. typescript.
- D.148 Part draft for slide lecture (different from above).
- D.149 Part draft for publication, with tables, on oxidation of succinate.
- D.150 Notes, drafts, references, some dated 1961.
- All the above were in original folder labelled 'Welch Raw Material' and probably refer to Krebs's 1961 Welch lecture 'Biological reductions in complex systems' (Bibliog. 202).
- D.151 'The effect of dinitrophenol on the metabolism of oxaloacetate in animal tissues'
- Heavily-corrected ms. and typescript drafts for a paper so titled, by Krebs and Eggleston, various dates, March 1962, October and December 1963, and undated.
- No paper of this title is listed in the Bibliography, and it was probably not published (R. Hems, personal communication, 1984).
- D.152 Ms. notes for lecture on the subject given for 'Biochemistry Part II', 22 January 1964.

Research

D.153-D.155	<u>Correspondence</u>	
D.153	Bücher, T.	1960
	Chance, B.	1960
D.154	Ernster, L.	1960
	Klingenberg, M.	1960, 1963
D.155	Chance, B.	1964
	Krebs's carbon only, on further research on reversal of oxidative phosphorylation. With related printed matter.	
D.156	Background material, some annotated.	
D.157	Krebs's original folders and box description.	
D.158	OXALOACETATE AND SUCCINIC DEHYDROGENASE 1961-66	
	Continuing work with L.V. Eggleston. Includes some earlier data and drafts, 1961-62, another draft of unlisted paper on effect of DNP (see D.151 above), continuing drafts by Krebs 1963-66, and a substantial 12pp. draft by Krebs and Eggleston on 'Metabolism of Oxaloacetate'.	

Research

D.159, D.160 CO₂ BUFFERS IN MANOMETRY 1961

D.159 Notes, drafts, bibliographical references, notes on the literature, correspondence from suppliers of 'Warburg Flasks', June-September 1961.

D.160 Offprints of articles by O. Warburg on manometry, and of Krebs's earlier (1951) articles on the subject (Bibliog. 140, 147).

D.161-D.164 GROWTH AND ENERGY 1962

D.161 Ms. and typescript notes, drafts, calculations, research ideas, references. A few only dated, January, April 1962.
In Krebs's original folder, labelled 'Growth and energy'.

D.162-D.164 Correspondence with colleagues, 1962

D.162 Elsdon, S.R.
Includes copies of Elsdon's reports on growth and energy to the A.R.C. Correspondence June includes invitation to Krebs to chair a session of the Society for General Microbiology symposium on 'Comparative Aspects of Microbial Metabolism', in Sheffield, January 1963.

D.163 Stoward, P.J.
Includes report by Stoward to D.S.I.R. on Thermodynamics of bacterial growth.

D.164 Zamecnik, P.

Zeuthen, E.

Research

- D.165 CONTROL OF GLUCONEOGENESIS 1962-63
- 24pp. ms. notes and drafts, in spiral-bound foolscap pad, various dates December 1962-January 1963.
- Includes research ideas, experiments, discussions with colleagues, notes on the literature, etc. The work, though heterogeneous in nature, is dated continuously from 22 December to 5 January, including Christmas Day, and may represent Krebs's reading and thinking when the laboratory was closed for Christmas. Note for 3 January on 'Citrulline' appears in a typed version in D.166 below.
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- D.166 'CITRULLINE' SPOT 1962-63
- Notes, drafts, correspondence, experimental results, by R.Hems and another, August 1962-January 1963. Includes copy of paper by Derks and Grisolia on 'Citrulline-like Material' and of Krebs's ms. and typescript notes on the subject.
- In Krebs's original folder.
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- D.167-D.174 MUSCLE METABOLISM 1962-64, 1967
- Drafts, notes, correspondence, mainly concerned with lactate in exercise.
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- D.167-D.169 Krebs's dated notes, drafts, research ideas and discussions, experimental results, bibliographical references. Three folders as follows:
- D.167 1962
- D.168 1963
- D.169 Carbohydrate synthesis in striated muscle; correspondence, substantial drafts and narratives, May, September-October 1963.

Research

- D.170 Undated notes, bibliographical references; includes some data by L.V. Eggleston, October 1963.
- D.171 Brief publications and papers by Krebs.
- Includes contribution to discussion of the 'Oxygen Symposium' sponsored jointly by the International Unions of Biochemistry and Physiological Sciences at Oxford, September 1963, and notes for paper on 'Some aspects of the metabolism of muscular exercise' given at a seminar in the Department of Physiology, Oxford, June 1964 (arising in part from 1963 Symposium and subsequent research and correspondence with D. Cunningham, B.B. Lloyd - see D.172 below).
- D.172 Correspondence, 1963-64
- Cunningham, D.
- Lloyd, B.B.
- Masoro, E.J.
- Olson, R.E.
- D.173 Correspondence with R.E. Davies, 1967, on early work on muscle metabolism. Includes a draft of letter by Krebs to A.V. Hill on same subject.
- D.174 Background material, some annotated.
- D.175-D.177 PYRUVATE CARBOXYLASE 1962-66
- D.175 Notes and drafts by Krebs. Various dates, 1962-66. Includes 4pp. draft by L.V. Eggleston 'Location of pyruvate carboxylase', October 1966.
- In original folder labelled 'Pyruvate Carboxylase'.

Research

- D.176 Experimental assays and results, mainly by Eggleston, with a few notes by Krebs, various dates, 1964-66.
- D.177 Drafts and notes by W. Gevers and Krebs for collaborative paper 'The regulation of phosphoenolpyruvate synthesis in pigeon liver', published 1967 (Bibliog. 244).
- D.178-D.180 KETONE BODIES 1962-65
- Correspondence, drafts, data exchanged with L. Kastner, relating to her research and publications on ketone bodies in rat-liver preparations.
- See also D.130.
- D.178 Notes, drafts, amendments by Krebs, some dated 1964.
- D.179 Correspondence, data and drafts from L. Kastner, 1963-65.
- D.180 Miscellaneous drafts, some with Krebs's amendments.
Final 10pp. typescript version.
- D.181, D.182 ENZYME ASSAYS 1963-66
- Contents of two folders so described, of notes, drafts, experimental data by Krebs and L.V. Eggleston.
- D.181 Extensive notes and drafts, mainly by Krebs but some by Eggleston annotated by Krebs. Various dates, September 1963-March 1966.
- Notes of September 1963 and July 1964 are general ideas on 'Significance of enzyme assays'; several notes are on 'Assay of pyruvate carboxylase'; note of July 1965 is a draft for a proposed paper by Eggleston and Krebs 'The capacity of enzymes related to gluconeogenesis in rat liver and rat kidney cortex'.

Research

- D.182 Ms. drafts for papers, experimental data, tables, results, etc. almost all by Eggleston, with a few ms. notes by Krebs. July-October 1965.
- D.183-D.187 ISOTOPE EXCHANGES 1963-70
- D.183 Notes, drafts, references, various dates 1963-65. Includes brief notes for 'Houston lecture' dated January 1965.
- D.184 Similar material, 1969 and undated.
- D.185 Notes for publication and paper.
Includes ms. notes for 'Wirtheimer Paper' on isotope exchanges, and typescript 'Discussion of paper by Robert Pitts', n.d.
Also included here are copies of Krebs's papers Bibliog. 229, 233.
In original folder labelled 'Wirtheimer'.
- D.186 Correspondence with colleagues re research and analyses.
Ryman, B.E. 1969-70
Landau, B.R. 1969
In original folder labelled 'Isotope Exchanges'.
- D.187 Background material.

Research

D.188-D.205 ISOLATED LIVER CELLS 1963-77

The earliest notes and drafts date from the 1960s (D.188, D.189) but the bulk of the material dates from 1970 onward. An important event was the Alfred Benzon Symposium VI on 'Regulation of hepatic metabolism' at which Krebs chaired a session and gave a paper. D.H. Williamson also gave a paper and two collaborative papers (Bibliog. 332, 333) were published in the Proceedings. Krebs continued to work on isolated liver cells until shortly before his death (see D.513, D.514). See also D.534-F.539.

D.188 Notes, drafts, data, mainly by Krebs, a few by Eggleston, on 'Cellularity determination', 1963.

D.189 Notes, drafts, research ideas and narratives on liver permeability, various dates 1966-67. With original folder labelled 'Liver permeability'.

D.190 Brief notes and references, 1970.

D.191 Notes and drafts, 1972.

D.192 Extensive notes and drafts, 1973. Includes brief correspondence forwarding results.

D.193-D.195 Experimental data, results, calculations, by Krebs and others, mainly on the 'lysine effect', probably for paper at Benzon Symposium (Bibliog. 332).

D.193 November-December 1972. In original folder labelled 'Early lysine exp. Nov-Dec 1972'.

D.194 January 1973.

D.195 April 1973. In original folder labelled 'Copenhagen Material'.

Research

- D.196-D.199 Material on the preparation and use of isolated liver cells as experimental material, probably for paper at Benzon Symposium (Bibliog. 333).
- D.196 Krebs's notes and drafts, some dated January 1973.
- D.197 Continuing notes and drafts, various dates March-September 1973. Includes sketches and diagrams for equipment, and photographs. In original folder labelled 'Isolated liver cells paper'.
- D.198 Miscellaneous drafts, tables, figures, etc. for papers on isolated liver cells, n.d.
- D.199 Photographs of liver cells, December 1973 and January 1974 (the latter with identifications and comments by Krebs on verso).
- D.200 Continuing notes and drafts by Krebs, various dates, August 1975-April 1977. Draft of February 1977 is headed 'Material for Paris Talk'.
- D.201-D.203 Correspondence with colleagues and information on isolated liver cells, 1972-73.
- D.201, D.202 Berry, M.N. (a principal collaborator in the use and preparation of isolated liver cells). Includes some data and drafts. Two folders as follows:
- D.201 October 1972-April 1973.
- D.202 June-August 1973. Includes drafts for papers on preparation techniques, and comments by Berry on draft version of Bibliog 333, with Krebs's marginal comments.

Research

- D.203 Cohen, P.P. 1972
- Francis, M. 1973
- Jones, M.E. 1972
- Ontko, J.A. 1973
- Raijman, L. 1972
- Krebs's carbon only
- Schreiber, G. 1972
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- D.204 Programme and List of Participants for the Alfred Benzon Symposium VI
on 'Regulation of Hepatic Metabolism', Copenhagen 20-24 May
1973.
- Also included here are offprints of publications by Krebs et al
(Bibliog. 321, 332, 333).
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- D.205 Background material, some annotated.
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- D.206 ASPARTATE c.1964
- Notes and tables on 'Some effects of aspartate ... on rat-brain
cortex slices', prepared by G. Massieu during his period of work
in Krebs's laboratory.
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- D.207 RESEARCH PROBLEMS 1964-67
- Drafts and notes, most headed 'Experiments to be done', 'Problems
for investigation', etc., and some with names or initials of research
workers allocated to specific projects. Various dates, April 1964-
July 1965.
- The last note is headed 'Reg' (Hems) and includes, as well as
experiments to be undertaken, the instruction 'Arrange for the
transport of equipment from South Parks Road to the Radcliffe' (1967).

Research

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| D.208 | DRUG-INDUCED DIABETES | 1965 |
| | Mainly correspondence with pharmaceutical firms and suppliers, and a little background material, on drug-induced diabetes with special reference to diuretics of the benzthiadiazine series. | |
| D.209 | CALORIC HOMEOSTASIS | 1965 |
| | Brief ms. notes and annotated printed matter, kept in separate folder so inscribed by Krebs. | |
| D.210-D.222 | ALANINE | 1965-73 |
| | The material relates to publications in 1966 with B.M. Notton and R. Hems (<u>Bibliog.</u> 235) and in 1973 with R. Hems and P. Lund (<u>Bibliog.</u> 322, 323). Most of the original folders were labelled 'Alanine' or 'Alanine dehydrogenase'. | |
| D.210 | Shorter notes and drafts, 1965, and undated, in various hands including Krebs, B.M. Notton and others. Also included is reprint of <u>Bibliog.</u> 235. | |
| D.211 | Notes and drafts 1967. Includes draft dated March 1967 for a proposed paper by Krebs, B.M. Notton and M. Stubbs on 'Stimulation of gluconeogenesis from alanine by phlorrhizin treatment in mouse kidney'. Not listed in the Bibliography. | |
| D.212 | Brief notes, tables for paper, 1968. | |
| D.213 | Notes, drafts, correspondence <u>re</u> supply and culture of <u>Bacillus cereus</u> and <u>Bacillus subtilis</u> for work on alanine dehydrogenase, April-July 1970. Includes reports on cultures processed at Imperial College, London, and at Microbial Research Establishment. | |

Research

- D.214 Continuing notes and drafts, May-December 1970.
- D.215 Continuing notes and drafts, 'discussions with Reg (Hems) and Pat (Lund)'. Includes 10pp. heavily-corrected draft 'For Biochem. J.' dated 21 May. Various dates, January-October 1971.
- D.216 Continuing notes and drafts, May-September 1972, and January 1973.
- D.217 Undated ms. notes and drafts.
- D.218 Results, tabulated data, etc., some by Hems and Lund, most annotated by Krebs.
- D.219 'Accumulation of amino acids by the perfused rat liver in the presence of ethanol'.
Heavily-corrected ms. and typescript draft with a ms. note 'Draft for final copy for B. J.' (Bibliog. 322).
- D.220 'Regulatory mechanisms in the synthesis of urea'
Heavily-corrected ms. and typescript draft for paper by Krebs, Hems and Lund (Bibliog. 323).
- D.221 Miscellaneous drafts for lectures and papers, kept with above.
- D.222 Background material, bibliographical references.

Research

D.223-D.238 REDOX STATE 1965-76

Contents of a box labelled 'Redox State / Wilson et al. / Marion et al'. The reference is to Bibliog. 328, but Krebs lectured widely and published many collaborative papers on the redox state, several of which are referred to or included.

Notes and data

D.223-D.226 Notes, drafts, experimental results, etc. for work with T. Gascoyne on rat liver homogenates (Bibliog. 260), by Krebs and Gascoyne, 1966-67.

D.223 Notes, drafts, results, comments by Krebs. Various dates, April-October 1966.

D.224 Similar material, February-July 1967 and undated.

D.225 Experimental data by Gascoyne, most with comments by Krebs, January-April 1967.

D.226 'The redox state of the nicotinamide-adenine dinucleotides in rat liver homogenates'

Heavily-corrected ms. and typescript draft (Bibliog. 260).

D.227-D.229 Notes, drafts, correspondence, etc. relating to collaborative paper published in Biochem. J., 1974 (Bibliog. 328).

Notes, drafts, ideas by Krebs.

Three folders as follows:

D.227 1965, 1966

D.228 1969-73

D.229 Undated

Research

Correspondence with colleagues and collaborators, 1971-76

- D.230 Harris, E.J. 1971
Includes related draft papers and printed matter.
- D.231 Erecińska, M. 1973-74
- D.232 Tager, J.M. 1975
Wilson, D.F. 1975
Includes related printed matter.
- D.233 Notes of discussions with collaborators, 1976. Note on 'Wilson's results'.

Publications

- D.234 Multiple drafts (all with variants) and comments, for paper (Bibliog. 328) under its original title 'Thermodynamic Relationships between the Oxidation-Reduction reactions and the ATP synthesis in suspensions of isolated liver cells'.
In Krebs's folder labelled 'Dave, Maria et al'.
- D.235 Earlier drafts for sections of paper, figures, etc.
- D.236 Typescript draft for paper with M. Stubbs, titled 'Effect of uncouplers of oxidative phosphorylation on the redox-state of the hepatic nicotinamide adenine dinucleotides', with ms. note 'p.15-16 missing'. See D.307.
- D.237 Offprints of some of Krebs's publications on the topic (Bibliog. 260, 268, 284, 328), kept with material.
- D.238 Background material, some annotated.

Research

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| D.239, D.240 | INTRACELLULAR pH | 1966-71 |
| D.239 | <p>Notes, drafts, notes on the literature, of discussions. Various dates, 1966-71.</p> <p>There is a fairly substantial draft, with tables and references, apparently for a proposed paper (3 November 1970) and also of 'Discussion with Roughton' (24 November 1970).</p> <p>In Krebs's original folder.</p> | |
| D.240 | <p>Printed matter, bibliographical references, some annotated.</p> | |
| D.241 | ADIPOSE TISSUE | 1967 |
| | <p>Drafts, notes, correspondence, experimental data by L.V. Eggleston. The work arises mainly from articles submitted to Krebs for comment by <u>B.B.A., Biochem. J.</u>, and includes correspondence with authors. January-April 1967.</p> <p>In Krebs's original folder.</p> | |
| D.242 | ROTENONE AND KETOSIS | 1967 |
| | <p>Notes and drafts on the ketogenic effects of amytal and rotenone, with a ms. note 'Further Work on Rotenone and Ketosis'.</p> | |
| D.243 | NUTRIENTS | c.1967 |
| | <p>Miscellaneous typescript and ms. tables, drafts, etc. mainly on growth rates and nutrients.</p> <p>Also includes note of 'Discussions with R.A. Freedland', July 1967, on his proposed research on urea synthesis under different nutritional conditions.</p> | |

Research

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| D.244 | CARNITINE | 1967, 1969 |
| | Notes and drafts on metabolic effects of carnitine. | |
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| D.245 | HEPATOTOXIC AGENTS | 1967-68 |
| | Notes, drafts, correspondence, and a little annotated printed matter, on the toxic effects of pyrrolizidine alkaloids.
In Krebs's original folder. | |
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| D.246 | HUMAN LIVER DATA | 1967-68 |
| | Data, notes, correspondence, related printed matter, on various enzyme levels in human liver.
In Krebs's original folder. | |
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| D.247-D.249 | KETOGENESIS REGULATION OF TCA CYCLE | 1968 |
| | Contents of a folder so inscribed.

Notes, drafts, data, correspondence, relating to work with W. Feldheim at Oxford. | |
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| D.247 | Notes, drafts, summary of Feldheim's research, notes for discussion etc., by Krebs, 1968. | |
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| D.248 | Notes, experimental results, tabulated data, by Feldheim, with many annotations and revisions by Krebs.
In original folder. | |
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| D.249 | Correspondence with Feldheim, draft of paper and tables. | |

Research

- D.250 EXTRAHEPATIC KETOGENESIS 1968-69
- Notes, drafts, ideas for experiments, several in bundles addressed to 'Len' (Eggleston), and including results, tables and drafts by Eggleston on 'Ketone body synthesis in rat heart homogenate'.
- In Krebs's original folder.
-
- D.251-D.253 ALCOHOL IN ANIMALS 1968-70
- Contents of a folder so inscribed, perhaps related to collaborative paper with J.R. Perkins (Bibliog. 287). Krebs also gave a short broadcast talk on the subject in December 1969.
- D.251 Notes and drafts on 'Rumen', 'Alcohol production by fauna', etc., 'Table of Contents' for proposed paper, miscellaneous information, press-cuttings, etc.; various dates, 1968-70.
- D.252 Draft material for 'unrehearsed interview' for broadcast on 'The Living World', December 1969. 6pp. See also H.280.
- D.253 Correspondence, requests for information on intoxication in animals, 1969.
-
- D.254 HOMEOSTASIS 1968-71
- Notes and drafts, most headed 'Caloric homeostasis' and dated May 1968 but includes some experimental data by L.V. Eggleston 1971. Includes 9pp. draft summary of research on subject, 1p. list of 'Matters which should be included in the paper', and brief correspondence.
- Krebs published a collaborative paper on the subject in 1971 (Bibliog. 305).

Research

- D.255-D.261 METABOLISM OF ACETALDEHYDE 1968-77
- Krebs's research notes and data begin in 1968, but the bulk of the material is correspondence and drafts exchanged with E. Fellenius who worked in Krebs's laboratory on the subject, April-August 1969 and for shorter periods subsequently.
- D.255 Notes and drafts by Krebs, data and results by L.V. Eggleston and R. Hems, various dates 1968-69, 1977.
- D.256 Correspondence with colleagues, 1968-69.
- D.257 Correspondence re visit by Fellenius, 1969. Includes arrangements, statement of proposed research programme.
- D.258 Fellenius's report on his work at Oxford, September 1969.
- D.259 Correspondence with Fellenius, 1970.
Includes results, discussions on research, etc.
- D.260 Correspondence, 1971-72
Includes arrangements for visit by Fellenius, etc. Krebs's note of 31 November explains why he felt unable to sign as co-author of paper by Fellenius and K.-H. Kiessling.
- D.261 Draft paper, sent to Krebs by Fellenius, March 1971.
- D.262-D.266 RATE CONTROL OF TCA CYCLE 1968-69
- D.262 Notes and drafts, various dates November 1968-November 1969. Several are headed 'Indianapolis' and the work relates to the lecture Krebs gave on 'Rate control of the tricarboxylic acid cycle' (Bibliog. 286).

In Krebs's original folder.

Research

- D.263 Undated notes and drafts, some headed 'Indianapolis' or referring to preparations for the lecture. Includes draft 'Comments on Indianapolis lecture' and Krebs's correspondence requesting information.
- D.264 Draft for lecture, 15pp. typescript and ms. (lacks p.1) with an extra ms. page of concluding notes ending 'thank you for your endurance after two very arduous working days'. No date or place.
- D.265 17pp. typescript and ms. draft lecture, headed 'Bristol March 1969'.
- D.266 Background material, some annotated.
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- D.267-D.271 METABOLISM OF WORKING HEART 1969-72
- Notes, drafts, data, correspondence relating to collaborative work on the metabolism of working and non-working heart, with L.H. Opie, K.R.L. Mansford, P. Owen, R. Hems, M. Spry. The various types of material are so closely interlinked that they are presented as a simple chronological sequence with no attempt at separation.
- D.267 June-December 1969
- D.268 1970
- D.269 January-June 1971
- D.270 April-May 1972
- D.271 Undated notes, background material, bibliographical references. Includes 4pp. typescript note on 'Rate control of tricarboxylic acid cycle' and a proof with ms. corrections of Krebs's paper on the subject (Bibliog. 286).

Research

- | | | |
|-------------|--|--|
| D.272-D.274 | MITOCHONDRIA | 1969-71 |
| | Research notes, correspondence, drafts, etc., mainly exchanged with E.J. Harris. | |
| D.272 | 1969-71 | Includes an early note by Krebs on 'Substrate competition' dated May 1962. |
| D.273 | 1971 | |
| D.274 | Extensive background material, some annotated. | |

Research

- D.275-D.288 INBORN ERRORS OF METABOLISM / HYPERAMMONAEMIA /
ORNITHINE TRANSCARBAMYLASE DEFICIENCY 1969-75.

Krebs lectured regularly on disorders or special aspects of metabolism to students in the Oxford Medical School. One of these lectures, on Sir Archibald Garrod, the history of the Whitley Professorship of Biochemistry, and the formation of the concept of inborn errors of metabolism, was published in 1970 (Bibliog. 291). Notes and drafts for these lectures are at D.275-D.279.

In 1970 a case was notified to Krebs of the specific metabolic disorders of hyperammonaemia and ornithine transcarbamylase deficiency. He studied the case in collaboration with medical colleagues on the staff of the United Oxford Hospitals (as they were then known) and prepared a paper for publication in Archives of Disease in Childhood. This material is at D.286. The paper was not published.

See also D.391.

Notes and drafts for lectures

- D.275 Various paginated notes and drafts, some dated 1969, 1970, for lecture on Garrod and the history of inborn errors of metabolism (Bibliog. 291).
- D.276 Notes, drafts, time-tabling, material for three 'Bridge Course' lectures on 'Special Aspects of Diseases of Metabolism', 15-17 November 1971.
- D.277 Notes and drafts for 'Bridge Course' lectures on inborn errors, March 1973.
- D.278 Brief notes for 'Bridge Course' lectures, December 1973, and short introduction for December 1974 and February 1975.
- D.279 Brief correspondence, lecture schedules and notes, 1972, 1975.

Research

Hyperammonaemia case

- D.280 Correspondence with colleagues on diagnosis, treatment, arrangement to demonstrate, 1970-72.
- D.281 Data and notes, by Krebs and others, 1970-71.
- D.282 Krebs's notes and drafts. Mainly 1973-75, but includes some earlier notes (1963) on dietary treatment of ammonia intoxication.
- D.283-D.286 Various paginated notes and drafts for lectures and publication on the case.
- D.283 Notes for lecture or demonstration, various dates January-February 1971 (in Krebs's order, not chronological). The note for 29 January describes his personal interest in the case as a link with his experience in 1931 'as a clinician at Freiburg University with full responsibility for patients'.
- D.284 Miscellaneous notes, some dated July 1971 and headed 'Ciba'.
- D.285 Shorter drafts, 1972, 1973, and undated.
- D.286 Various drafts, in typescript and ms., some by Krebs or with ms. corrections by him and by others, some dated 1974, 1975; with brief correspondence re submission of paper to Arch. Dis. Childh.
- D.287 Bibliographical references. In Krebs's folder inscribed 'Literature. Inborn Errors'.
- D.288 Extensive background material, some annotated by Krebs.

Research

- D.289 GLUCOSE FFA CYCLE 1970
- Brief notes, ideas for research and discussion on 'is there a glucose homeostasis separable from caloric homeostasis?', correspondence. Various dates, October-December 1970. In Krebs's original folder.
- D.290 HORMONES AND GLUCONEOGENESIS 1970
- Brief notes and drafts, December 1970. In Krebs's original folder.
- D.291 INTERMEDIATE LIVER METABOLISM 1970-72
- Notes, drafts, data and results by R. Hems, with Krebs's annotations, various dates, December 1970, July 1972. In Krebs's original folder inscribed 'Sauer', the work being developed from a paper by F. Sauer et al published in Eur. J. Biochem. 17, 1970, a copy of which is included.
- D.292, D.293 PASTEUR EFFECT 1970-71
- D.292 Notes and drafts, various dates, October 1970-December 1971. In Krebs's original folder inscribed 'Pasteur Draft' and perhaps related to the paper he published in 1972 on 'The Pasteur effect and the relations between respiration and fermentation' (Bibliog. 316, German version Bibliog. 312).
- D.293 Background material, almost all annotated by Krebs.

Research

D.294-D.304 AMINOTRANSFERASES 1970-72

The work was conducted in collaboration with L.V. Eggleston. Two draft papers were in preparation (D.302, D.303) and Krebs also used the material for one of his lectures at Indianapolis (D.298-D.301).

Research notes and drafts

- D.294 Discussion notes and correspondence with M.F. Utter, 1970. Included here are some earlier notes (October-November 1968) of discussions with Utter on pyruvate carboxylase.
- D.295 Drafts, data, results, narratives, mainly by Krebs but some by Eggleston, January-November 1970.
- D.296 Similar material, but including many results, drafts, tables, etc. by Eggleston, and mainly on lysine metabolism, January-September 1971, April 1972. In Krebs's original folder inscribed 'Rat Tissue Aminotransferases'.
- D.297 Miscellaneous shorter undated notes and drafts.

Drafts for lectures and papers

- D.298-D.301 Ms. and typescript drafts for a paper, to be given at Indianapolis.
- D.298 9pp. ms., headed 'Indianapolis. Amino acid'.
- D.299 6pp. typescript and ms. 'Regulation of the supply of essential amino acids', dated 22 June 1970.
- D.300 7pp. ms. 'Organ Distribution of Aminotransferases', n.d.
- D.301 20pp. typescript 'Regulatory Mechanisms in Mammalian Amino Acid Metabolism' (slide lecture).

Research

- D.302, D.303 Drafts for two papers by Eggleston and Krebs.
- D.302 'Paper A. Induction and depression of rat liver aminotransferases',
12 April 1972.
- D.303 'Paper B. Comparative activity of aminotransferases in rat and
human tissue', 19 April 1972.

Both in Krebs's original folder inscribed by him with Eggleston's initials and the titles of both papers. The papers were not published, but part of the work was used in Bibliog. 310.

- D.304 Background material.

D.305-D.307 OXIDATIVE PHOSPHORYLATION 1971

- D.305 Drafts and notes, mainly 1971.
- D.306 Correspondence and results from R.L. Veech, 1971.
- D.307 'Effect of uncouplers of oxidative phosphorylation on the
redox-state of the hepatic nicotinamide adenine dinucleotides'.

Three drafts for a paper so titled, by Krebs and M. Stubbs, two with extensive ms. corrections mainly by Krebs, but some by M. Stubbs, and final typescript draft ready for submission. The paper was not published but some of the material was published in 1979 by M. Stubbs in Pharmac. Ther., 7, 329-350 under the title 'Inhibitors of the adenine nucleotide translocase'.
See D.236.

Research

- D.308, D.309 KETONE BODY METABOLISM IN DIABETES 1971
Notes, drafts, etc. arising from work on the subject by N.B. Ruderman.
- D.308 Krebs's notes, points to be discussed with Ruderman, correspondence with Ruderman, 1971.
- D.309 Notes, drafts, tables, with ms. corrections by Krebs and others.
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- D.310 ADIPOSE TISSUE 1971
Notes, drafts, bibliographical references, some dated 1971; probably arising from papers submitted for publication in FEBS Letters, some of which are included in the folder.
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- D.311-D.313 REDOX STATE IN BACTERIA 1971-72
- D.311 Notes and drafts, various dates, May-July 1971, and 1972. Includes brief correspondence with colleagues.
- D.312 Krebs's previous publications on subject (Bibliog. 245, 276, 285).
- D.313 Background material.
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- D.314-D.316 REVERSIBILITY OF RESPIRATORY CHAIN 1971-74
Contents of a folder so inscribed.
- D.314 Notes and drafts, some dated 1971, 1974.
- D.315 Draft for paper 'Can the mitochondrial respiratory chain be considered as a system which approaches equilibrium', not by Krebs, but with ms. comments and corrections by him. pp.25-65 with two appendices. Some pages dated 1973. Perhaps related to Bibliog. 328.
- D.316 Correspondence and data from colleagues.
R.L. Veech, 1971
D.F. Wilson, 1973

Research

D.317 ALCOHOL METABOLISM IN LIVER 1971-74

Shorter drafts and notes, some dated 1971, 1974.

D.318-D.329 RETINAL METABOLISM 1971-72

Notes and drafts

D.318 Stapled folder of notes, bibliographical references, notes on the literature, 3pp. ms. outline for research project on retinal metabolism. Some by Krebs but mainly in another hand, perhaps R.A. Hawkins.

D.319 Notes, drafts, research data, tabulated results, by Krebs and by R. Hems, some dated August 1971-February 1972. In folder inscribed 'Eye Material'.

D.320 Similar material, for work on 'Avian (and other) Retina', instructions for collaborators, draft tables, data and results by R. Hems, etc., some dated October 1971-November 1972.

D.321 Bibliographical references and notes on the literature, by Krebs.

Lectures and publications

D.322 'The Energy Metabolism of the Retina'

Drafts for a paper by Krebs and R. Hems, with R.A. Hawkins appearing as a collaborator on later versions.

3 drafts, all with different ms. corrections and additions, 11pp., 3pp. references, tables 1-12. p.1 dated February 1972. In folder inscribed 'Retina Draft'. The paper was not published.

D.323 'Ultrastructure of the avian retina. An anatomical study of the retina of the domestic pigeon ...' (Bibliog. 315).

3 drafts, all with different ms. corrections and additions by Krebs. The second draft is dated February 1972; the third refers to the paper by Krebs, Hawkins and Hems, 1972 (D.322 above) as 'in preparation'.

Research

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|-------|---|------------|
| D.324 | Miscellaneous notes, slide-list, etc. for a lecture on retinal metabolism, given in various locations listed on folder (Hull, Southampton, Jerusalem, University College London, Rehovoth, Leicester, Oxford Eye Hospital). | |
| D.325 | Miscellaneous pages for a lecture on the subject, in German. | |
| | <u>Correspondence and information from colleagues.</u> | |
| D.326 | Berman, E.R. | 1971 |
| | Hawkins, R.A. | 1972 |
| D.327 | Michaelson, I.C. | 1971-72 |
| | Includes Krebs's research notes and ideas, notes of discussions with Michaelson on various occasions in 1972, etc. | |
| D.328 | Vail, W.J. | 1971 |
| | Includes research notes, references, related printed matter. | |
| D.329 | Background material, some annotated by Krebs. | |
| D.330 | SALINE MEDIA | 1971, 1976 |
| | Ms. and typescript notes and drafts, various dates, 1971, 1976. | |

Research

D.331-D.341

CALORIMETRY

1971-78

Correspondence with colleagues and manufacturers, notes, drafts, results, etc. on the development of microcalorimetry for biological research. The material is presented as a chronological sequence, including research papers or reports sent to Krebs, in order to preserve the various contacts, visits and inter-related projects involved in the furtherance of the research.

T.H. Benzinger, correspondence with whom from 1971 contributed to Krebs's involvement in the work, had worked in Krebs's department 1955-57. His principal collaborators at that time had been R. Hems and Kitzinger, and three papers were published in 1956 and 1959 (2).

The chief correspondents in the present sequence are:

G.T. Armstrong, National Bureau of Standards, Washington D.C.

T.H. Benzinger, National Bureau of Standards, Maryland

R.L. Berger, University of California

H.U. Bergmeyer, C.F. Boeringer GmbH, Germany

G.P. Burn, Department of Clinical Biochemistry, Radcliffe Infirmary, Oxford

K. Burton, University of Newcastle

E.J. Prosen, National Bureau of Standards, Washington D.C.

D.331

March-May 1971

D.332

June-October 1971

D.333

1972

Includes arrangements for demonstrating Bureau of Standards calorimeter in Krebs's laboratory, arrangements for him to consult regularly on project at National Bureau of Standards, Washington, grant application, etc.

D.334

1973

Correspondence, results, discussion notes, list of participants at conference on Microcalorimetric Investigations, Lund, July.

Research

- D.335 March-June 1974
 Collaborative work, discussion of results and papers, with
 E.J. Prosen and K. Burton.
- D.336 July-December 1974
 Correspondence, notes, related printed matter.
- D.337 1975-76
 Mainly Krebs's notes and drafts, some results by G.P. Burn.
- D.338 1977
 Includes miscellaneous drafts for paper by Prosen on microcalorimetric
 studies.
- D.339 Reports on microcalorimetry by G.P. Burn, nos.4-9, 12-14, various
 dates, 1975-78.
- D.340 Correspondence with suppliers, quotations, manufacturers' literature.
- D.341 Background material.
-
- D.342 ACETYLGLUTAMATE 1972
 Shorter notes and drafts.
-
- D.343 UREA CYCLE 1972
 Miscellaneous notes and drafts, probably for lectures at Kansas City
 and Indianapolis; some pages dated 1972 (perhaps draft for
 Bibliog. 323).

Research

D.344-D.348 AMINO ACID ANALYSES IN LIVER CELLS 1972-74

Several of Krebs's original folders on this subject are headed 'Schimassek' and refer to research findings by H. Schimassek (q.v.) which Krebs developed.

D.344 Correspondence with colleagues, 1972-73.

D.345 Notes and research ideas, 1973.

D.346 Experimental data and results, mainly by R.C. Farrell, some by D. Wiggins, several annotated by Krebs or interleaved with his comments or suggestions, various dates, 1972.

D.347 Similar material by Farrell, Wiggins and Hems, interleaved with notes by Krebs, various dates, 1973, and a little material 1974. An extensive folder.

D.348 Background material.

D.349-D.358 GLUCONEOGENESIS AND UREA SYNTHESIS 1972-74

Data and drafts by Krebs and collaborators (M. Stubbs, P. Lund, D. Wiggins) on various factors in urea synthesis, leading to the chapter contributed by Krebs, Lund and Stubbs on 'Interrelations between gluconeogenesis and urea synthesis' in Gluconeogenesis (ed. R.W. Hanson and M.A. Mehlman) 1976 (Bibliog. 347).

Research data and results

D.349 'LIVER PERFUSIONS. UREA SYNTHESIS'

Folder so inscribed (in the hand of M. Stubbs). Extensive data, graphs, results, in various hands, many with annotations by Krebs. Various dates, mainly 1972, but a few 1974.

D.350 'GLUCONEOGENESIS AND UREA SYNTHESIS. EGG WHITE DIET. MEAT DIET. .NORMAL FED'

Folder so inscribed (in the hand of M. Stubbs). Similar material, 1973 and 1974

D.351 Similar material, found as loose papers, various dates, 1973 and 1974.

Research

Notes and drafts for paper (Bibliog. 347)

These are extensively revised and corrected, mainly by Krebs, but some by M. Stubbs, and may incorporate similar data to that above. Several have a ms. indication 'Lardy Festschrift', 'Lardy Volume', etc.

D.352 1972

D.353 1973

Notes for June-July incorporate correspondence and discussions with L. Rajjman and M.E. Jones.

D.354 October 1974

D.355 November 1974

D.356 December 1974

D.357 Miscellaneous undated notes, drafts, tables, etc.

D.358 Background material.

D.359-D.372 PENTOSE-PHOSPHATE CYCLE

1972-74

Krebs's chief collaborator in this work was L.V. Eggleston, who died in January 1974 when their collaborative paper (Bibliog. 327) was in the press. Another collaborative paper (Bibliog. 329) was published in the same year. In addition, Krebs gave several lectures and papers on the subject in Britain and abroad (see D.369-D.371).

The main bulk of the research notes and drafts are 1972-74, but see D.359 for some of much earlier date.

Research notes, drafts, discussions

D.359 1949 (1p. only), 1967 (1p. only), August-December 1972

D.360 1973

D.361 1974

D.362 Undated, mainly by Krebs, a few by Eggleston.

Research

- D.363 Experimental results, data, tables, drafts, summaries, mainly by Eggleston, with comments or annotations by Krebs. Various dates, December 1972-September 1973. In Eggleston's original folder.

Lectures and publications

- D.364, D.365 'Regulation of the pentose phosphate cycle' (Bibliog. 327)
- D.364 Extensive drafts by Eggleston and Krebs. In Eggleston's original folder.
- D.365 Comments on paper, editorial correspondence with Biochem. J. re referees' comments, offprint of published paper.
- D.366-D.368 'The regulation of the pentose phosphate cycle in rat liver' (Bibliog. 329).

Various drafts and versions for lecture at Indianapolis, subsequently published.
- D.366 Typescript and ms. draft by Krebs and Eggleston, with a ms. note 'File away 2.5.74.'
- D.367 Typescript with ms. corrections, with a ms. note 'Use this for lecture'.
- D.368 Typescript with ms. corrections, with a ms. note 'Corrected copy'; list of references; proof of publication, with corrections.
- D.369 Symposium on Aspects of Metabolic Regulation, University of Bristol, 15 February 1974.

The Symposium was organised by P.J. Randle. Krebs gave the last paper (on 6-Phosphate Dehydrogenase) and 'concluding comments'. Folder includes correspondence with organiser, programmes, list of participants, 12pp. draft for lecture, ms. notes for concluding comments.

Research

- D.370 1p. ms. notes for lecture at Madrid, 20 May 1974 (using material of Bristol lecture).

 15pp. draft for lecture in German at Düsseldorf, 24 May 1974 (using material of Bibliog. 329).
- D.371 Notes for visit to Washington (not dated), including tables for lecture on pentose phosphate cycle.
- D.372 Background material, bibliographical references, some annotated.
-
- D.373-D.378 6-AMINO-NICOTINAMIDE 1972-77

 Notes, drafts, data, discussions
- D.373 1972, 1974 (several arising from discussions with H. Herken).
- D.374 1976-77. Includes data by D. Wiggins.

 Correspondence with colleagues
- D.375 Harris, R.A. 1975-77
 Includes data, results, etc.
- D.376 Herken, H. 1972-76
- D.377 McLean, P. 1977
- D.378 Extensive background material, some annotated.
-
- D.379 COMPETITION BETWEEN SHORT- AND LONG-CHAIN
 FATTY ACIDS IN PERFUSED RAT LIVER [1973]

 Report so titled, tables, etc. by J. Medina, with ms. notes by Krebs. Medina's title on the folder has been amended by Krebs to 'On competition between acetate and oleate in perfused rat liver'. n.d., but Medina worked in Krebs's laboratory in summer 1973.

Research

D.380 SULPHONAMIDES 1973-74

Drafts, notes, data on sulphonamides and sulphanilamide.
Includes experimental results by D. Wiggins with comments by
Krebs. Various dates, November 1973-January 1974.

D.381 FLUOROCARBONS 1973-74

Background material only, some annotated with reference to
fluorocarbons as blood substitutes.

D.382-D.395 OVER-MEDICATION 1973-78

This topic became one of Krebs's principal concerns in later life.
Most of his own notes, drafts and annotations are headed 'Over-
medication' but later the more technical term 'iatrogenic' was
used, e.g. for the section which Krebs incorporated in the Dunham
Lectures (D.459 et. seq.).

For additional material about Krebs's involvement see Special
Commission on Internal Pollution in Section G and J.599, J.600.

Research notes and information

- D.382 Notes and drafts by Krebs, various dates, 1974.
- D.383 Undated notes, many with accompanying press-cuttings.
- D.384 Specimens of multiple prescriptions, from Radcliffe Infirmary, Oxford.
- D.385 Correspondence from colleagues forwarding information:
- | | |
|--------------|------|
| Clarke, C.A. | 1975 |
| Sicé, J. | 1973 |
| Smith, D.G. | 1978 |

Research

Lectures and publications

- D.386 Drafts for article, variously titled 'The Dangers of Over-Medication' and 'On the Mis-Use of Drugs', and published as 'On the overuse and misuse of medication', in Executive Health, 1974 (Bibliog. 334). First draft dated 12 August, second dated 2 September 1974.
- D.387 Two other drafts, with different corrections and revisions.
Folder also includes copy of paper as published.
- D.388 'Abuse of Drugs (The Hidden Danger)'
Brief drafts, December 1973-January 1974, with a note 'Possible lecture subject for Indianapolis 1974'.
- D.389 'Material used at a lecture at Hanover on 27 April 1974' (text in German).
- D.390 Ms. and typescript drafts for a lecture in German on over-medication. This was in fact the second of two subjects on which Krebs announced his intention to lecture. The first topic was hyperammonaemia (see below).
- D.391 Ms. and typescript draft for lecture in German on hyperammonaemia.
- D.392 'Overmedication'
19pp. typescript lecture, with a note 'Philadelphia Oct.1974, Oxford Bridge Course Dec. 1974'.
- D.393 Drafts for talk at Oxford on overmedication, probably in Department of Clinical Pharmacology, April 1975.
- D.394 Miscellaneous drafts and notes for talk on carcinogenic agents, n.d.
- D.395 Extensive background material. 1 box.

Research

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|--------------|---|------|
| D.396 | CRASSULACEAE | 1974 |
| | Discussion note on possible collaborative research project with F.R. Whatley, correspondence, background material, February-April 1974. | |
| D.397 | CARNOSINE | 1974 |
| | Brief notes and background material. | |
| D.398, D.399 | SHUTTLES AND CARRIERS | 1974 |
| D.398 | Notes and drafts on various factors in metabolic transport (malate, pyruvate, alanine, lactate, etc.), mainly January-February 1974, but includes letter from colleague on subject, 1972. | |
| D.399 | Background material. | |
| D.400-D.408 | HYPERLACTATAEMIA AND LACTIC ACIDOSIS | 1974 |
| | Notes and drafts mainly related to work on collaborative paper by Krebs, H.F. Woods and K.G.M.M. Alberti, published under this title in the first issue of <u>Essays Med. Biochem.</u> , 1975 (<u>Bibliog.</u> 337). Includes some earlier notes of the 1960s. | |
| D.400 | Shorter notes and drafts 1963, 1964, 1968. | |
| D.401 | Extensive drafts and notes for 'essay', by Krebs or by collaborators, with extensive revisions by Krebs, January-February 1974. | |
| D.402 | Continuing drafts, March-April 1974. | |
| D.403 | Continuing drafts, July-September 1974. | |
| D.404 | Undated notes and drafts. | |

Research

- D.405 Extensive bibliographical references.
- D.406 Final draft for 'essay'. Typescript with very extensive ms. corrections.
- D.407 Drafts for letter to The Lancet, July 1974, arising from a letter (June 1974) by R.A. Kreisberg (also referred to in 'essay'). The letter was not published (perhaps not sent).
- D.408 Background material, some annotated.
-
- D.409-D.414 RENAL AMMONIA 1974
- Notes, drafts, etc. mainly related to collaborative work with P. Vinay (q.v.) who worked in Krebs's laboratory 1973-75 (Bibliog. 338).
- D.409 Notes and drafts, by Krebs and by Vinay, March-June 1974. Note of 24 June is headed 'Notes on Pitts conference'. Notes of 28 June are for 'Seminar - June 29' (probably at Oxford).
- D.410 Continuing notes and drafts, July 1974.
- D.411 Undated notes by Krebs and by Vinay.
- D.412 Typescript and ms. draft for lecture on subject, referring to work with Vinay and also to work of R. Pitts and perhaps related to Pitts Symposium, June 1974. For Pitts symposium see F.259, F.260.
- D.413 'Regulation of Renal Ammonia Production'. Typescript and ms. drafts for Bibliog. 338.
- D.414 Background material. Includes copy of Bibliog. 233.

Research

D.415-D.435 FOLATE / B₁₂ / METHIONINE / HISTIDINE 1974-78

Material on these inter-related topics was kept together by Krebs in one box so inscribed. He published several collaborative papers (Bibliog. 348, 350, 360) and the work is mentioned by Kornberg and Williamson as among the most important of his later research (Memoir, p. 377).

Notes and drafts

D.415 Indexed bundle of ms. and typescript notes and drafts, discussions with colleagues, research ideas and results, etc. Various dates, March-November 1975.

With typescript index (12 items, of which nos.6-10 are missing).

This is material similar to that kept as 'Indexed notes and memoranda' at D.46-D.100, but here kept with other loose pages of drafts and notes.

D.416 Ms. and typescript notes and drafts, February 1974, January-June 1975.

D.417 Continuing notes and drafts, July-December 1975.

D.418 Continuing notes and drafts, 1976.

D.419, D.420 Undated notes and drafts. Two folders.

D.421, D.422 Notes and drafts, mainly on histidine, related to collaborative paper with R. Hems (Bibliog. 348).

D.421 Experimental data and results, by Krebs and collaborators, various dates, January 1974.

D.422 Extensive notes, drafts, tables, etc. by Krebs and Hems, some dated 1975, 1976, but also including earlier notes of discussions on histidine with N. Cornell, 1972 and 1974. Note of 23 January 1975 is on FIGLU as a substrate for glutamic dehydrogenase, later developed in Bibliog. 360.

Research

Correspondence with colleagues

D.423 Scrutton, M.C. 1975, 1978

Correspondence 1978 includes arrangements and programme for Symposium and Workshop on 'Gluconeogenesis and Its Regulation', Oxford, September 1978. Krebs was Chairman, gave the 'Opening Remarks' and participated in the final general discussion. There are ms. and typescript drafts dated January 1978 headed 'Notes on the history of regulation of enzyme activity' perhaps intended for delivery at the Symposium (see also D.433).

Also included are drafts of papers by Scrutton on histidine, with comments by Krebs.

D.424 Sellinger, O.Z. 1976

Includes related printed matter.

D.425 Smith, R.M. 1975-76

Lectures and publications

D.426 'The Regulation of Folate and Methionine Metabolism', by Krebs, Hems and B. Tyler. Heavily-corrected typescript and ms. draft for Bibliog. 350 dated January 1976.

D.427 Offprints of Krebs's publications, Bibliog. 348, 350 (annotated and revised).

D.428 'Draft for the Lancet'
10pp. draft for article on cobalamine (vitamin B₁₂) deficiency. The article was not published and was perhaps not sent.

D.429 'Regulation of folate and methionine metabolism'. Ms. and typescript (incomplete) draft for lecture, 5 January 1976.

D.430 'Univ. College Chem. & Physical Soc'
4pp. ms. notes for lecture, 27 January 1976.

D.431 'Histidine metabolism and methionine'
Typescript and ms. draft with a ms. note 'Philadelphia', 14 September 1976.

Research

- D.432 'History of the Study of Regulation of Metabolism'
1p. ms. notes only, December 1977.
- D.433 Miscellaneous notes, April 1978, on control mechanisms at enzyme level, perhaps intended for symposium organised by M.C. Scrutton.
- D.434 Bibliographical references on folate and methionine.
- D.435 Background material, some annotated.
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- D.436 PENTENOATE 1975
Notes and drafts by Krebs, experimental results and data by D. Wiggins on effects of pentenoate on urea synthesis; work arising from a paper by A.M. Glasgow and H.P. Chase, a copy of which is included. Various dates, March 1975 (some of Krebs's notes wrongly dated 1974).
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- D.437 L-GLUTAMATE TRANSPORT IN HEPATOCYTES 1975
Draft and diagrams for paper, by A. Kleinzeller annotated by Krebs, n.d.; bibliographical note by Krebs, October 1975.
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- D.438, D.439 LACTATE 1975-76
- D.438 Notes and drafts on carbohydrate and lactate as fuels of respiration, September 1975.
Correspondence 1975, 1976 with A. Freminet including drafts of papers submitted for publication by Freminet.
- D.439 Background material, some annotated.

Research

- D.440-D.444 METABOLISM OF BRANCHED-CHAIN AMINO ACIDS 1975-76
- Drafts, notes, research material for lecture at Indianapolis and publication with P. Lund 'Aspects of the regulation of the metabolism of branched-chain amino acids' (Bibliog. 355). Most of the work is 1976 but see D.440 for earlier work by L.V. Eggleston.
- D.440 Notes and results by Eggleston, 1970-71, with annotations and updating by Krebs.
- D.441 Extensive notes and drafts, discussions with P. Lund, D.H. Williamson for Indianapolis lecture, July-November 1976.
- D.442 Miscellaneous undated notes, drafts, tables, etc. for lecture and paper.
- D.443 Bibliographical references, 1975-76.
- D.444 Background material, some annotated.
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- D.445 CHICK ENTEROCYTES 1977
- Experimental results and research reports by J.W. Porteous (with some annotations by Krebs), June 1977. Porteous worked in Krebs's laboratory January-September 1977.
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- D.446-D.449 PURINE SYNTHESIS 1977-81
- Notes, drafts, research ideas, problems for collaborators, experimental results, etc., mainly by Krebs and D. Wiggins, but also by Hems and G. Livesy. Various dates, May 1977-October 1981 and undated; also some earlier material, 1969-70 (see D.446).
- Related to Bibliog. 365, 393.
- D.446 'The Physiological Role of Liver Alcohol Dehydrogenase'
- Material used as a basis of lectures at various centres between September 1969 and May 1970; with a ms. note 'Uppsala, Indianapolis, Philadelphia, New York Columbia, Reading, Chelsea, University College, Washington DC, Manchester'.
- (Kept with later material.)

Research

- D.447 1977-78
- D.448 1979-81
- D.449 Background material and references, some annotated.
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- D.450 GLUCAGON AND INSULIN IN BIRDS 1978
- Brief correspondence and notes, January-February 1978.
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- D.451-D.453 GLUTAMINE METABOLISM 1978-79
- D.451 Ms. and typescript notes and drafts, diagrams, etc., a few only dated November 1978-October 1979, some probably intended for a lecture. Work related to Bibliog. 378, 381.
- D.452 Bibliographical references.
- D.453 Background material, including some draft papers by others, some annotated by Krebs.
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- D.454 CALCIUM CONCENTRATION IN SALINE 1979
- Notes, drafts, background material, April 1979.
- Also included are correspondence with H. Rasmussen, 1969, and papers by Rasmussen and Nagata, 1969-70, to which Krebs refers in his notes.

Research

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|-------------|----------|---------|
| D.455-D.458 | BENZOATE | 1979-81 |
|-------------|----------|---------|
- The results of this collaborative work were not published until after Krebs's death, in Biochem. J., 1983 (Bibliog. 396). Many of his notes and drafts are of very late date.
- D.455 Correspondence with A. Sols suggesting collaborative research on the topic, discussing results and drafts, etc., 1979-81. Also includes Krebs's letter to A.J. Sinskey requesting a meeting at Harvard to discuss benzoate.
- D.456 Drafts and notes, 1979-81. Krebs's latest dated note is 18 September. Work continues in the hand of D. Wiggins to December.
- D.457 Drafts and comments for published paper (Bibliog. 396).
- D.458 Ms. and typescript draft for a slide lecture on benzoic acid at Baltimore (ms. dated November 1979) and part of another talk or lecture, April 1981.

Research

D.459-D.511 EVOLUTION OF METABOLIC PATHWAYS 1979-81

The term 'evolution' is used ambiguously - as it was by Krebs - to cover the history or sequential tracing of metabolic pathways and more philosophical concepts of purpose and necessity; in this latter respect it forms a link with Krebs's ideas on 'Teleology' almost thirty years previously (D.101-D.111).

The immediate trigger for the work was an invitation in 1979 to give the Dunham Lectures at Harvard in April 1981. Krebs's original intention was to lecture on juvenile delinquency, but he was persuaded to choose a topic more closely related to his life's work in biochemistry. He turned his mind immediately to the ideas and material to be included (R. Hems, personal communication 1984) and envisaged the lectures as a summation of the thinking on metabolic processes which he had expressed in more piecemeal fashion in previous research projects and publications. His third lecture enabled him to include some discussion of social and moral evolution, or order in society, which had become of increasing concern to him.

During the lengthy gestation of the Dunham Lectures, Krebs took the opportunity to give several lectures, and to publish several papers on the subject. Among these was the collaborative article with J.E. Baldwin in Nature (Bibliog. 385); Baldwin had suggested to Krebs in March 1980 an important reason why direct oxidation of acetate could not provide an alternative to the citric acid cycle, and Krebs acknowledged his help in other papers, as well as referring to it constantly in his notes, drafts and lectures. The Dunham Lectures themselves were not published, as Krebs died before he could complete the manuscript (see especially D.502-D.505).

The surviving material is very extensive and indicates the importance Krebs placed on the topic and his wish to explore it adequately. Many of the drafts overlap, were cannibalised for later work or extended to incorporate new ideas resulting from discussions, correspondence or reading. The allocation of material is therefore hazardous. It is presented here as follows:

Research

D.459-D.473	Notes and drafts
D.474-D.490	Lectures, papers, publications
D.491-D.505	The Dunham Lectures
D.506-D.510	Correspondence
D.511	Background material

For further material on Krebs's visit to Harvard for the Dunham Lectures, see F.346-F.349.

For additional research notes and ideas, see D.94-D.96, and the 'jotters' for the relevant period.

Notes and drafts

In approximate chronological order; sequences kept together by Krebs on a particular topic have been retained (see, e.g., D.460, D.464, D.468, D.469). The importance to Krebs of his discussion with J.E. Baldwin on 30 March 1980 is very apparent from the notes.

D.459	June, October 1979. Brief notes only.
D.460	April 1980. Contents of a plastic envelope inscribed 'History', mainly notes and drafts arising from Krebs's discussion with J.E. Baldwin on 30 March. The two main topics are 'Comments on the oxidizability of acetic acid in living material' and 'The Evolution of the citric acid cycle and other metabolic cycles'; drafts for the latter are in a 'jotter' similar to those in Section A and there is also a ms. draft letter to Baldwin on the importance of his idea.
D.461	April 18-30 1980. Includes 12pp. 'Comments on the evolution of metabolic cycles' as well as shorter notes.
D.462	May 1980. Notes on 'Cycles' of 13 May incorporate earlier notes on 'Cyclic Processes' dated August 1971.
D.463	June-August 1980.
D.464	Contents of a plastic envelope inscribed 'Reaction Mechanisms'; various notes, drafts, calculations and diagrams, bibliographical references, a few dated April, October 1980.

Research

- D.465 September-December 1980. Includes notes arising from further discussions with Baldwin, comments on joint paper in Nature, etc.
- D.466 January 1981
- D.467 March-May 1981
- D.468 Contents of a plastic envelope inscribed 'Evolution general. Creationism. Popper'; notes, drafts, background material, some dated May, June 1981.
- D.469 Contents of a plastic envelope inscribed 'Multiple Use of Resources'; includes notes of discussion with G. Pontecorvo, June 1981.
- D.470 June-August 1981
- D.471 September, October 1981
- D.472, D.473 Undated. 2 folders.

Lectures, papers, publications

- D.474 'Cyclic Processes in Biology'
- 25pp. typescript draft, with a ms. note 'For Italian Encyclopaedia'; latest reference 1976. Not listed in Bibliography. See H.420.
- D.475 'The Evolution of Metabolic Pathways'
- Two typescript and ms. drafts, 19pp. with different annotations.
- The talk was given as a slide lecture at Miami, November 1980; a set of slides, notice of lecture and letter of thanks from Freshman Student audience are included. One of the drafts is headed 'Edinburgh Reading', and the other 'Talk Edinburgh Meeting of Soc. Gen. Microbiol.' and has a ms. addendum. (The meeting was held in September 1981 and the paper was published in the Symposium Proceedings (Bibliog. 387).
- Also included is a notice of two lectures given by Krebs in November 1980 at Medical College of Georgia, on 'The Evolution of Metabolic Cycles' and 'The History of the TCA Cycle'.

Research

- D.476-D.483 Lectures in German, on the evolution of the citric acid cycle and other metabolic cycles, given on various occasions November 1980-June 1981, at Halle, Göttingen, Düsseldorf, Lindau and possibly other locations. The texts are basically the same, but all have different ms. corrections, deletions, amendments, etc., and some have indications of where given. (SUPP. Bibliog. 62.)
- D.476 'Halle 11.11.80'
- 10pp. typescript and ms.
- D.477 'Über die Evolution des Citronensäurecyklus und andere cyklischer Stoffwechselwege', with a note 'Halle script' and a 3pp. summary headed 'Lindau Halle Posted 1.5.81'
- D.478 'Lecture Göttingen 27.5.80'
- Ms. and typescript drafts, and a letter, June.
- D.479 17pp. typescript and ms. draft headed 'Dusseldorf Lindau'.
- D.480 Another version, more heavily corrected.
- D.481 12pp. typescript and ms. draft, heavily corrected, headed 'Lindau' and 'Use at München 1982'.
- D.482 Typescript drafts of lectures on evolution of citric acid cycle (9pp.) and on evolution of citric acid and other metabolic cycles (12pp.). In German.
- D.483 Miscellaneous shorter drafts for lectures in German, 1981.
- D.484-D.486 Drafts and material for Nature article (Bibliog. 385).
- D.484 Ms. and typescript version of article as first drafted by Krebs under his name only; sent to Baldwin with covering letter, October 1980.
- D.485 Three versions of above, all with variations and alterations following discussions with or comments from Baldwin. Miscellaneous loose pages of amendments and corrections.
- D.486 Draft with Baldwin's and Krebs's names. Reprint of paper as published, with copy of earlier paper (Bibliog. 387) marked with deletions and alterations to be used as basis for Nature article.

Research

- D.487 'Evolutionary concepts in biological thought'.
Originally given as a 'keynote' lecture and subsequently published (Bibliog. 386). Two versions, with different texts and corrections.
- D.488 'The Evolution of Metabolic Pathways'.
Heavily-corrected draft of talk given at meeting of Soc. Gen. Microbiol., Edinburgh, 1981, prepared for publication (Bibliog. 387), 23pp.
Includes 3pp. summary sent to symposium organiser, October 1980, and brief note from J.R. Krebs commenting on the draft.
- D.489 Miscellaneous shorter drafts, notes, references.
- D.490 Reprints of Krebs's publications kept with material (Bibliog. 113, 293, 310, 351, 387).

The Dunham lectures. (Given at Harvard, 19, 21, 26 May 1981.)

The general title was 'Evolution and regulation of the metabolic pathways' and the topics covered were 'Why Cycles?', 'The Usefulness of the Evolutionary Process, Comprehension of Metabolic Organization'. The titles of the three chapters prepared for publication before Krebs's death were:

1. The Evolution of the Citric Acid Cycle
2. The Evolution of Other Metabolic Cycles
3. Linear Reaction Sequences

- D.491 Synopsis of all three lectures.
Miscellaneous drafts for introductory remarks.
- D.492 'Lecture 1'
Multiple drafts, all with annotations, revisions, emendations, etc.
- D.493 Miscellaneous notes, drafts, tables, probably intended for first lecture. Includes 'Comment on biochemical evolution' in which Krebs discusses the use of the term, and his report on audience reactions to a previous lecture by him on the subject.
- D.494 'Lecture 2'
Miscellaneous ms. and typescript notes and drafts.

Research

- D.495 'Lecture III'
Ms. and typescript notes and drafts.
- D.496-D.501 Notes and drafts intended for Dunham lectures.
- D.496 1980
- D.497 1981
- D.498 On iatrogenic medicine (referred to in third Dunham lecture).
- D.499 Unidentified.
- D.500 Slides, diagrams, comments on slides.
- D.501 'Evolution, Harvard. Refs.'
- D.502-D.505 Drafts for proposed publication of Dunham lectures.
See also D.507.
- D.502 Typescript of introductory remarks, and first three chapters, submitted to Harvard University Press after Krebs's death, December 1981.
- D.503 Draft figures and tables.
- D.504 Miscellaneous drafts as edited for book.
- D.505 Editorial correspondence with Harvard University Press and with The Sciences re proposed book, 1981-82.
- D.506-D.510 Correspondence
Including data, background material, notes of discussions in preparation for Dunham lectures.
- | | | |
|-------|-----------------|---------|
| D.506 | Blake, C. | n.d. |
| | Gest, H. | 1979-81 |
| D.507 | King, P. | 1980 |
| | Newsholme, E.A. | n.d. |
| D.508 | Paulus, H. | 1981 |
- Includes Paulus's paper on evolution of the ornithine cycle intended for inclusion in Krebs's book of the Dunham Lectures.

Research

- D.509 Quayle, J.R. 1980
 Extensive notes, arrangements to meet, printed matter, etc.
- D.510 Walsh, C. 1981
- D.511 Background material
 1 box.
- D.512 CITRATE CYCLE 1980
 Brief ms. notes only, mainly related to an article by P.J. Randle;
 a copy of the article (annotated by Krebs) with a covering letter
 from Randle, is included.
- D.513, D.514 HEPATOCYTES 1981
 Contents of folder inscribed 'Hepatocytes 1981'. The notes and
 drafts run June-October 1981 and represent some of Krebs's last
 work, on isolated liver cells and preparation techniques, based in
 part on an examination of methods described in papers by P.O. Seglen.
 A posthumous collaborative paper related to the work, 'The effect
 of cysteine oxidation on isolated liver cells', appeared in 1983
 (Bibliog. 395).
- D.513 Notes and drafts, June-October 1981 (last dated note is 26 October).
- D.514 Undated ms. notes, folder of experimental data headed 'Seglen
 Comparison', 3pp. draft on 'Manipulation of isolated liver cells'.
 Also included are copies of earlier papers by Krebs on the subject,
 kept with the material (Bibliog. 347, 376).

Research

D.515-D.548 MISCELLANEOUS NOTES

See the introductory note to Section D.

D.515-D.529 A chronological sequence of dated material, 1950-81.

D.530-D.546 An alphabetical sequence of material referring to specific research topics.

D.547, D.548 Undated and unidentified notes.

Dated material (chronological)

D.515	1950, 1957	D.523	1975
D.516	1961, 1962, 1965, 1966	D.524	1976
D.517	1967-69	D.525	1977
D.518	1970	D.526	1978
D.519	1971	D.527	1979
D.520	1972-73	D.528	1980
D.521	1974	D.529	1981
D.522	1974-75 Miscellaneous tabulated data by Krebs, D. Wiggins, R.C. Farrell, M. Stubbs, R. Hems		

Research

Research topics (alphabetical)

D.530	Acidosis	1975 and undated
	Aldolase	
D.531	ATP	
D.532	Citrate Synthase	
D.533	Histidine and methionine	1974-77
D.534-D.539	Isolated liver cells	1974-78
	A substantial collection of material, related to or developing from previous work on lysine but not kept with it.	
D.534	Notes and drafts, by Krebs, D. Wiggins, M. Stubbs.	1974-75
D.535	Notes and drafts, mainly on staining methods with trypan blue.	1977-78
D.536	Drafts for paper given at Guildford (some pages dated June, July 1978). Two heavily-corrected typescript and ms. versions, one with title 'Criteria of metabolic competence of isolated hepatocytes' (<u>Bibliog.</u> 376).	
D.537	'An explanation for the inhibition of glucose synthesis from lactate by ethanol in isolated hepatocytes'	
	Two drafts, one with extensive corrections in the hand of M. Spry, for a paper so titled.	
D.538	Correspondence with T.F. Slater.	1976
D.539	Background material, some annotated.	
D.540	Ketone	1969-70 & undated
D.541	Krogh principle	1976
D.542	Mitochondria	1974 & undated
D.543	Mono-oxygenase	c.1980
D.544	Pentose phosphate	1972, 1977 & undated

Research

- D.545 Shuttles and Carriers
4pp. ms. draft, dated 28 January 1973, and with a ms. note
attached 'For autograph hunters'.
- D.546 Toxicity of glutamate n.d. c.1973

D.547-D.548 Undated and unidentified notes

2 Folders, with Krebs's original designation 'Memos'.

Research

D.549-D.569 BIBLIOGRAPHICAL REFERENCES

With the exception of the binder at D.549, these are loose octavo sheets of the standard format used for the Memoranda and, like them, are usually dated. A few have specific topic headings but most are an extensive unalphabetised series of references to work on all aspects of metabolism drawn from a wide range of journals. They are all additional to the bibliographies and background material kept elsewhere in Section D and especially with the 'Research Projects' at D.101-D.514, and testify to the importance attached by Krebs to maintaining a continuous overview of current research.

The material is presented in year order as far as this is ascertainable.

D.549	Spring-back binder, labelled 'References' on spine. Mainly 1957-65.		
D.550	1960, 1961	D.555	1966
D.551	1962	D.556	1967
D.552	1963	D.557	1968
D.553	1964	D.558	1969
D.554	1965		
D.559	1970	D.564	1975
D.560	1971	D.565	1976
D.561	1972	D.566	1977
D.562	1973	D.567	1978
D.563	1974	D.568	1979, 1980
D.569	Undated or miscellaneous		