

Catalogue of the papers and correspondence of

Joseph Needham CH FRS

(1900 - 1995)

VOLUME I

Introduction

Sections A - D

by Timothy E. Powell and Peter Harper
NCUACS catalogue no. 54/3/95

J. Needham
NCUACS 54/3/95

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GENERAL INTRODUCTION

PROVENANCE

The papers were received in September 1992 from Cambridge University Library.

OUTLINE OF THE CAREER OF JOSEPH NEEDHAM

Noel Joseph Terence Montgomery Needham (known as Joseph) was born in London on 9 December 1900, the son of Joseph Needham (1852-1920) and Alicia Adelaide Needham, née Montgomery (1863-ca.1940). His father was a London doctor specialising in anaesthetics and his mother achieved some fame as a pianist and composer of songs. Joseph Needham was educated at Oundle School 1914-1918 and Gonville and Caius College, Cambridge 1918-1922 where he studied for the Natural Sciences Tripos, specialising in physiology with biochemistry as a subsidiary subject. Needham then went on to postgraduate research in the Cambridge Biochemistry Department under Frederick Gowland Hopkins. He held a Benn Levy Studentship 1922-1924, studying the biochemistry of inositol. He was elected a Fellow of Gonville and Caius College in 1924 and in the same year married Dorothy Mary Moyle (1896-1987), a fellow researcher in the Department. Dorothy Needham was to become an eminent biochemist in her own right (FRS 1948). Needham was appointed University Demonstrator in Biochemistry in 1928 and in 1933 succeeded J.B.S. Haldane as Sir William Dunn Reader in Biochemistry. He held this post until 1966 when he became Master of Gonville and Caius College. He retired from the Mastership in 1976.

Needham's early biochemical research focused on embryology. He studied the development of a complex and sophisticated organism with specialised organs from a single fertilised egg-cell. In his three volume book *Chemical Embryology* published in 1931, Needham explained embryological development as a chemical process, rejecting the view that such development was caused by an undefined vital spark. He then extended this work with research into various aspects of morphology, culminating in his 1942 book *Biochemistry and Morphogenesis*. As well as these two books, Needham produced three other major books on biochemistry and numerous scientific papers.

He combined this high rate of productivity in biochemistry with a prolific output of articles on religious, political and philosophical subjects. Many of these were subsequently republished in Needham's four collections of articles and essays *The sceptical biologist* (1929), *The Great Amphibium* (1931), *Time the refreshing river* (1943) and *History is on our side* (1946). Needham also gave many lectures, likewise on philosophical, religious and political subjects in addition to those of purely

biochemical interest. Of particular note are the 1935 Terry Lectures on 'Order and Life' delivered at Yale University, and his Herbert Spencer lecture 'Integrative levels; a revaluation of the idea of Progress' at Oxford, May 1937.

As well as his contributions to the development of biochemistry in Cambridge Needham was an important figure in the establishment of the history of science as an academic discipline at Cambridge. He was a founder member of the History of Science Lectures Committee in 1936 which set up a programme of lectures in the history of science, featuring some of the greatest scientists of the time - including Barcroft, W.H. Bragg, Haldane, Eddington, Hopkins and Rutherford - lecturing on the history of their disciplines. After the Second World War he served on the History of Science Committee and the History and Philosophy of Science Committee until 1971. Needham was also a leading figure in the International Union of the History and Philosophy of Science. He served on the Council of the Division of the History of Science 1969-1977 (President 1972-1974) and was President of the Union 1972-1975.

Needham's interest in China was awakened by Chinese students at Cambridge from the mid 1930s. He began to learn Mandarin Chinese and study Chinese history, particularly the Chinese contribution to science which he believed had been overlooked by western historians. Needham also became an enthusiastic supporter of British academic assistance to Chinese universities. Joseph and Dorothy Needham volunteered to go to China to help in reconstruction of academic science there. The outbreak of war in Europe set back their plans but in 1942 Needham went to China as Head of the British Scientific Mission and later Scientific Counsellor to H.B.M. Embassy at Chungking (then the 'acting-capital' of China). He also acted as advisor to various arms of the Chinese government and military. Under the auspices of the British Council Needham established the Sino-British Science Cooperation Office (SBSCO). The SBSCO was responsible for assessing the needs of Chinese scientific, technological and medical institutions and researchers, and facilitating the supply of equipment and medicines, books and journals to China. Needham was Director of the SBSCO and Dorothy Needham was Associate Director.

The success of the SBSCO was the immediate inspiration for Needham's vision of postwar international science co-operation. With the form of the future United Nations organisation under intense discussion Needham sent three memoranda to a wide range of political and scientific leaders pressing for the inclusion of scientific co-operation under its auspices. He argued that the proposed United Nations Educational and Cultural Organisation should include science within its remit and he may have been the first to use the abbreviation 'UNESCO'. It was appropriate that in 1946 when Needham left the SBSCO he was appointed the first Director of the Section of Natural Sciences of UNESCO. He served for two years.

On his return to Cambridge in 1948 Needham began work on his new project - a history of the contribution of China to science and civilisation. This monumental work was to occupy Needham for most of the rest of his life; the first volume of *Science and Civilisation in China* appeared in 1954 and by his death it had run to sixteen volumes. Among those Chinese students who had first encouraged Needham's interest in China was Lu Gwei-Djen, a research student studying under Dorothy Needham in the late 1930s. The Needhams became close friends with Lu and their careers came together again when she returned to Cambridge in 1957 to assist Needham in this work. This immense work of scholarship found a permanent home with the later establishment in Cambridge of the Needham Research Institute as a centre for research on Chinese science. Needham's interest in Chinese civilisation led to his appointment in 1949 to the University Faculty Board of Oriental Languages (later Oriental Studies).

Needham's political sympathies lay very much with the Left. He was a member of the Labour Party and in the 1930s served on the executive committee of the university branch. Needham was on the left of the party and from 1933 was Chairman of the Cambridge branch of the Socialist League. This was dissolved in 1937 following its expulsion from Labour Party for launching a 'Unity Manifesto' with the Independent Labour and Communist parties. In the 1930s Needham was also an active member of the Cambridge Scientists Anti-War Group, which campaigned against militarism and played an important part in securing better air raid precautions by illustrating the inadequacies of government preparations. From 1937 to 1939 Needham served as Treasurer of the Cornford-Maclaurin Memorial Committee. This was established in memory of two Cambridge men killed fighting with the International Brigade to raise funds for the republican cause in Spain. On the outbreak of the Second World War, Needham participated in discussions among Communist Party members and others on the Left as to whether they should support the British war effort. After the German attack on the USSR in 1941 Needham was active in promoting Anglo-Soviet friendship until his departure for China.

After the war Needham supported peace and disarmament campaigns. His strong sympathies for China led to his being a founder of the Britain-China Friendship Association, of which he was President, and its successor the Society for Anglo-Chinese Understanding, of which he was Chairman. In 1952 Needham served on an international scientific commission investigating alleged American use of bacteriological weapons in North Korea and China. The commission's report concluded that the US had indeed been using such weapons and this led to intense criticism of Needham in the UK. Needham opposed the Vietnam war and this led him to refuse invitations to conferences or to lecture in the USA during the 1960s and early 1970s. Needham was also much

concerned for human rights and civil liberties, both at home and abroad, and believed strongly in the social responsibility of the scientist.

Needham was a religious man. From his student days he was a high church Anglican but combined this with a commitment to social justice. In the 1930s Needham was active in propagating a highly political Christianity emphasising its closeness to Marxism. He was a member of the *ad hoc* editorial board behind the controversial book *Christianity and the social revolution* (1935), to which he also contributed a chapter 'Laud, the Levellers and the Virtuosi'. This and writings such as *The Levellers and the English revolution* (1939), published under the name 'Henry Holorensaw', linked radical Christianity of the seventeenth century with the politics of the twentieth century. In later years Needham was drawn to Daoism, which he believed offered hope of reconciliation between science and religion. This concern also led to his Presidency of the Teilhard de Chardin Centre for the Future of Mankind. His religious outlook notwithstanding, Needham was also an Honorary Associate of the Rationalist Press Association.

Needham was elected to the Fellowship of the Royal Society in 1941 and in 1971 elected a Fellow of the British Academy, thus becoming one of very few to attain this double distinction. In 1992 he was appointed a Companion of Honour. He also held many honorary Chairs, fellowships and doctorates worldwide. Needham died in 1995, outliving both Dorothy Needham, who died in 1987, and his second wife Lu Gwei-Djen, whom he had married in 1989 but who died in 1991.

DESCRIPTION OF THE COLLECTION

The material is presented in the order given in the List of Contents. The collection is very extensive and includes important records of Needham's family background, his career as a biochemist, his work with the Sino-British Science Cooperation Office and UNESCO, and his political and religious interests.

Section A, Biographical, is the largest in the collection. Needham's childhood and school-days are represented chiefly by correspondence with his parents. His period as an undergraduate and postgraduate at Cambridge is documented by correspondence with his mother and material concerning his religious activities, including his membership of the Oratory of the Good Shepherd and the Guild of St Luke and some of his religious writings. Needham's later career is less well documented, although there is material relating to his election to the Fellowship of the Royal Society in 1941.

The largest component of the section is the papers of his mother, Alicia Adelaide Needham, which were inherited by Joseph Needham on her death. These include her autobiography 'A Daughter of Music', her diaries covering the period 1879-1924, a long sequence of her musical compositions (many of which were published) together with other material relating to her career as pianist and composer, and an extensive correspondence 1877-1921. In addition there is a little material relating to Needham's father and maternal grandfather. Family material also includes papers relating to Needham's cousin Elizabeth Montgomery Wilson, a nurse who served in the 1899-1902 South African War. The papers include photographs, letters and memorabilia from her time in South Africa.

The section also documents some of the trades union and charitable bodies with which Needham was associated, social engagements and functions (many at Cambridge 1919-1937), and family and personal finance 1933-1959.

Section B, Cambridge, includes documentation of the Department of Biochemistry, general University matters, the development of history of science at Cambridge, the Faculty of Oriental Studies and Gonville and Caius College. The bulk of the material relates to the Department of Biochemistry. This is chiefly syllabuses, bibliographical references, notes on the literature, annotated offprints etc used for Needham's lectures on biochemistry to postgraduates in the 1950s and 1960s. There is also significant material regarding the funding of research in the Department, 1925-1943, and visitors to the Department. Also of interest is correspondence and papers relating to Needham's contribution to the co-ordination of wartime biological and biochemical research in Cambridge. This includes papers of the Biochemistry Subcommittee of the Advisory Research Council of the Chemical Society and the Biology War Committee, set up to continue the co-ordination of research.

The documentation of Needham's role in the establishment of the history and philosophy of science as an academic discipline in Cambridge University includes papers from the History of Science Lectures Committee 1936-1937 and, postwar, the History of Science Committee and the History and Philosophy of Science Committee.

Section C, Sino-British Science Cooperation Office (SBSCO), includes correspondence on the origins of the China mission, chiefly relating to the Needhams' support for Chinese academics and students 1939-1942 and arrangements for Needham's journey to China in 1942, and correspondence from Needham's time in China and later correspondence arising from the contacts he made while in China. There are also Needham's manuscript notes on his visits to scientific, medical, industrial and educational institutions throughout China, manuscript and typescript drafts for lectures - frequently delivered in association with his visits to various institutions, detailed reports of travels within China

for the British Council, and publications arising from his work, including accounts for *Nature* and material relating to his book *Science Outpost* in which he described the work of the SBSCO.

Section D, United Nations Educational, Scientific and Cultural Organisation (UNESCO), documents Needham's role in the establishment of UNESCO and his Directorship of the Section of Natural Sciences. From an early date Needham kept material he believed would be of historical significance, particularly those papers relating to his three memoranda on the establishment of international science co-operation and the creation of UNESCO. The largest component is material relating to the Section of Natural Sciences 1946-1948. There are also papers from meetings of the UNESCO General Conference, administrative papers and correspondence from the UNESCO Executive, and papers relating to the project for a Scientific and Cultural History of Mankind. The section also includes papers of the British Committee for Co-operation with UNESCO in the Natural Sciences.

Section E, Undergraduate and research work, presents a record of Needham's work in biochemistry and embryology from undergraduate notes and essays, postgraduate studies and research in embryology and morphology in the 1920s and 1930s, to research completed just before his departure for China in 1942. There are notebooks used for undergraduate notes on lectures by many leading Cambridge scientists including Hopkins, H. Hartridge, R.A. Peters and Barcroft, notebooks used during long vacation courses, and notebooks covering research from 1921 to 1943. The research notebooks are particularly striking for the high quality of information they present. The entries usually identify the nature of the experiment and its date and are often annotated with remarks on why the results of particular experiments were not as expected, what might have gone wrong and how this might be remedied. The section also includes undergraduate and postgraduate lecture notes, notes on the literature, and research material 1924-1942. The research material was mostly found in Needham's folders with a note of the subject inscribed thereon. The notes, bibliographical references, offprints and correspondence found in these folders may cover a period of many years, reflecting Needham's continuing interest in all aspects of research into embryology and morphology.

Section F, Publications, is extensive but chiefly relates to Needham's pre-war and wartime publications. Included in the section are not only drafts of many of his scientific papers and books but also writings on philosophical, religious and political themes. A number of his more scientific works are particularly well-documented. These include his philosophical monograph *Man a Machine* (1927) and his two most significant biochemistry books *Chemical Embryology* (1931) and *Biochemistry and Morphogenesis* (1942). Among Needham's political writings represented are his article 'Laud, the Levellers and the Virtuosi', published in *Christianity and the social revolution* (1935), and *The Levellers and the English revolution* (1939), which was published under the name 'Henry

Holorenshaw'. There is also good documentation of the books *The sceptical biologist*. (1929), *The Nazi Attack on International Science* (1941), *Science in Soviet Russia* (1942), and his two final collections of articles *Time the refreshing river* and *History is on our side*, published in 1943 and 1946 respectively. Needham's later publications represented include his paper 'History and Human Values: a Chinese perspective for world science and technology', published in the *Centennial Review* and subsequently in *The radicalisation of science. Ideology of/in the natural sciences* (1976) edited by S.P.R. and H. Rose.

The section also includes a number of Needham's translations of Polish and Chinese texts, including *Green Thralldom* by Tang Pei-Sung (1949), extensive editorial correspondence, including requests to write articles or books, and an incomplete set of Needham's offprints.

Section G, Lectures and broadcasts, presents some of Needham's public and invitation lectures delivered on scientific, philosophical, political and religious subjects 1921-1977. There is also a little material relating to broadcasts. Among Needham's lectures documented here are the Terry Lectures on 'Order and Life' at Yale University, 1935, the Herbert Spencer lecture on 'Integrative levels', Oxford, 1937, the Schiff Foundation Lecture on 'The position of science in Europe today', delivered at Cornell University, October 1940, and his 1961 commemorative lecture on 'The Life and Work of Sir Frederick Gowland Hopkins' delivered at Cambridge. The section also includes invitations either declined or for which there is no evidence or acceptance, 1927-1974. Broadcasts material includes a BBC radio talk by Needham on 'Recent advances in medical science', broadcast from Glasgow, 19 August 1923.

Section H, Visits and conferences, presents a chronological sequence of material relating to some of Needham's visits and conferences 1920-1984. It is similar to sections F and G in representing not only Needham's biochemical interests but also his political and religious concerns. Thus the section includes conferences of the Student Christian Movement held at Swanwick in Derbyshire in the 1920s and 1930s and the 1936 World Congress of Faiths. There is correspondence and papers relating to his visit to the USA in 1940, during which scientific engagements were combined with lectures on the position of science in Europe, with particular emphasis on the damage to scholarship caused by the Nazis. Also particularly well-documented are the 220th Anniversary of the Academy of Sciences of the USSR, June 1945, the First International Congress of Biochemistry, Cambridge, August 1949, Needham's visit to the USA March - May 1950 as the Hitchcock Visiting Professor at the University of California, Berkeley, and the First Congress of Polish Science held in Warsaw, 1951. The sequence includes many invitations declined. From the late 1950s Needham declined many invitations, being occupied with his work on *Science and Civilisation in China*, and he also

refused to visit the USA during the period of American involvement in Vietnam as an expression of his disapproval of US government policy.

Section J, Societies and organisations, is substantial. It brings together documentation of Needham's involvement with 44 British and international societies and organisations. However, the material relating to scientific societies is disappointing. Perhaps of most interest are papers of the Theoretical Biology Club, an informal gathering of biologists and others established by J.H. Woodger in 1932 to discuss philosophical implications of developments in the biological sciences, and papers from meetings of the Society of Experimental Biology and the Physiological Society. Needham's interest in the history of science is better documented in the papers of a number of organisations including the Académie Internationale d'Histoire des Sciences and the International Union for the History and Philosophy of Science. Needham's international outlook is illustrated by his chairmanship of the Commission on the University of Ceylon in 1958, for which there is extensive documentation, and his support of the World Academy of Art and Science from its foundation in 1959. Other societies and organisations for which there is substantial material include the Louis Rapkine Memorial Fund Appeal and the British Society for Social Responsibility in Science.

Section K, Politics, documents Needham's wide-ranging and active involvement in politics of the Left. Pre-war material includes documentation of the Labour Party in Cambridge in the mid-1930s, including Dorothy Needham's campaigns as a Labour candidate for Cambridge City Council in 1935 and 1936, and the Cambridge Scientists Anti-War Group. There are also comprehensive records of fund-raising for the Cornford-Maclaurin Memorial Committee, and notes of the discussions which took place among Cambridge Communists and sympathisers on the outbreak of the Second World War as to whether they should support the British war effort. Post-war documentation suggests Needham played a less active role in British political life. Most of this material relates to his support of peace and disarmament campaigns.

Needham's international outlook, naturally focused on China, is well-represented in the papers. After the establishment of the People's Republic in 1949 Needham was keen to strengthen links between the Peking government and the UK. Both the Britain-China Friendship Association and its successor organisation the Society for Anglo-Chinese Understanding are documented, especially the response of these organisations to the border dispute between India and China, the ideological conflict between China and the USSR and the Cultural Revolution. There is also material relating to the 1952 International Scientific Commission investigating the alleged US use of bacteriological weapons in North Korea and China, opposition to the Vietnam war, and to Needham's concern about human rights abuses worldwide, reflected in papers of organisations such as Amnesty International.

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LOCATION OF OTHER MATERIAL

Papers relating to Needham's work on *Science and Civilisation in China* are held at the Needham Research Institute, Sylvester Road, Cambridge.

Needham's papers and correspondence relating to chemical and biological warfare are deposited in the Department of Documents, Imperial War Museum, London. They are catalogued as NCUACS 55/4/95.

The papers and correspondence of Dorothy Needham are deposited in the Library, Girton College, Cambridge. They are catalogued as NCUACS 22/7/90 and 37/5/92.

Timothy E. Powell
Peter Harper
BATH 1995

SECTION A BIOGRAPHICAL A.1 - A.695

A.1-A.18 BIOGRAPHICAL AND AUTOBIOGRAPHICAL

A.19-A.43 CHILDHOOD

A.44-A.83 UNDERGRADUATE AND POSTGRADUATE

A.84-A.96 CAREER, HONOURS AND AWARDS

A.97-A.641 FAMILY

A.642-A.655 CLUBS, ASSOCIATIONS AND OTHER
INTERESTS

A.656-A.677 SOCIAL ENGAGEMENTS AND INVITATIONS

A.678-A.693 FINANCIAL

A.694, A.695 MISCELLANEOUS

Biographical

BIOGRAPHICAL AND AUTOBIOGRAPHICAL

- A.1 Obituaries of Needham, 27 March 1995:
The Times.
Daily Telegraph.
Guardian.
Independent. With reminiscences, 29 and 30 March and 24 April 1995.
- A.2 Biographical notes ca.1936, ca.1947 (compiled for UNESCO Section of Natural Sciences) and 1948 (compiled for unidentified Chinese institution).

Entry from *Who's Who*, 1995.
- A.3, A.4 Bibliographies.
- A.3 1927, 1932.
- A.4 1934, ca.1937.
- A.5, A.6 'Joseph Needham, a great amphibian'.

Typescript draft of chapter four of *The Rebirth of Organic Form: an Organismic Paradigm in Twentieth Century Developmental Biology* by D.J. Haraway (Yale, 1975) sent to Needham by the author. Paginated 155-225. 2 folders.

The chapter describes the part Needham played in linking biochemistry with morphogenesis in the 1930s.
- A.7-A.9 Correspondence with J.A. Witkowski, 1980-1986. 3 folders.

Witkowski researched into the history of biochemistry and embryology. He drafted papers on biochemical work on the evocator in the 1930s (at A.8) and on the Cambridge school of chemical embryology 1920-1942 (at A.9), both of which centred on the work of Needham.

Biographical

- A.10 Correspondence with H.F. Bradford, Honorary Archivist of the Biochemical Society, *re* videotaped interviews of Needham's recollections, 1986.
- A.11-A.13 Other requests for autobiographical information and historical or philosophical reflections.
- A.11 Correspondence 1972-1978.
- A.12 13pp typescript of interview with Theresa Brennan about the historian Gordon Childe, 17 March 1977.
- A.13 Correspondence *re* J.H. Quastel, 1985, 1987.
- A.14-A.17 'The personal papers of Dr. Joseph Needham, F.R.S.: A Preliminary Catalogue by Gary Werskey...August 1968'. 89pp photocopied typescript and manuscript. 4 folders.
- A.18 Passport, 1935-1945. Includes travel permits enclosed at front.

CHILDHOOD

- A.19-A.29 Infancy
- A.30-A.43 Oundle School

Infancy

- A.19-A.21 Birth and Christening.
- A.19 Letters and telegrams of congratulations on birth, enquiries after health of mother and son etc.

Biographical

- A.20 Memorabilia from Christening, 28 February 1901, including telegrams of good wishes.
- A.21 Miscellaneous memorabilia.
- A.22, A.23 'Letters about Darling Little Baby'. Contents of envelope so inscribed divided into two for ease of reference.
- A.22 Correspondence from nurse to mother, reporting on the baby's welfare, July 1901.
- A.23 Miscellaneous memorabilia, including material 1902, 1903.
- A.24, A.25 Letters from nurse and maid to his mother (visiting Ireland), reporting on the baby's welfare, *ca.* April-May 1902. 2 folders.
- A.26 Early letters from Needham to his mother.
- A.27 Letters from parents to Needham 1902-1906.
- A.28 Letters from parents to Needham 1907-1908.
- Letter from Needham, on holiday in France, to father, 19 April 1913.
- A.29 Childhood drawings and other memorabilia.

Biographical

Oundle School

See E.1-E.4 for notebooks which include science notes from Oundle School.

- | | |
|-----------|---|
| A.30-A.38 | Correspondence between Needham at Oundle School, and parents, 1914-1918. |
| A.30 | 1914. |
| A.31 | 1915 January, February. |
| A.32 | 1915 May. |
| A.33 | 1915 June, July. |
| A.34 | 1915 November. |
| A.35 | 1916 January - June. |
| A.36 | 1916 September - December. |
| A.37 | 1917, 1918. |
| A.38 | Nd. |
| A.39 | Letters from staff at Oundle to Needham's parents, chiefly <i>re</i> Needham's health, 1914-1917. |

Biographical

- A.40 Hardback notebook inscribed on first pages alternately 'History notes volume ii' and 'Vol. 3 (notes) History notes. From "The Black Death" to '. Used Easter and Summer terms 1916. Paginated 1-82, with index at back. Not all pages used. Intercalated loose is duplicated manuscript French and Greek teaching material.
- A.41 Essay on 'Roman Medicine', 15pp manuscript.
- A.42 Manuscript essays on 'My first operation', 4pp, 20 January 1917; 'A true war memorial', 4pp; 'The king who fights his subjects fights himself', 4pp; 2pp English essay; 4pp essay on D.W. Griffiths.
- A.43 Miscellaneous material from school years, including manuscript poems 'The younger generation', 15 May 1917; 'Questions', August 1917; and untitled.

UNDERGRADUATE AND POSTGRADUATE

For undergraduate and postgraduate notebooks and notes see section E.

First World War

- A.44 Papers *re* service in Cambridge University Officer Training Corps, 1918; ration book.

King's College London

- A.45 Timetable for Faculty of Science, 1917-1918; annotated Zoology examination papers, June 1918; timetable for occasional student in Faculty of Medical Science, 1919-1920; calendar of advanced lectures in physiology, 1919-1920; manuscript notes on morbid anatomy.

Biographical

Gonville and Caius College Cambridge

Academic

- A.46 Correspondence *re* admission to Gonville and Caius, 1918.
- A.47 Booklet of Previous Examination papers, October 1917, probably used in preparation for taking the examination in March 1918; annotated Previous Examination papers, March 1918.
- A.48 Examination papers for Preliminary Examination in science, 1918; Natural Sciences Tripos examination papers 1920, 1922; first page of essay on 'Blood as a Tissue', inscribed 'Caius Nat. Sci. Essay Prize 21.vi.'21'.
- A.49 List of College residents 1919; manuscript timetables; manuscript notes on work to be done; etc.

Religious societies

- A.50 Guild of St Luke.
- Needham was admitted to the Guild in 1919. His name was removed from the membership list in 1936.
- Pocket manual; calendars; letter informing Needham of the removal of his name from the membership list, 11 November 1936.
- A.51-A.53 Church of the Holy Spirit, Clapham.
- Needham served at the Church during vacations.
- Church newsletters, calendars etc, 1920-1923. 3 folders.
- A.54-A.61 The Oratory of the Good Shepherd.
- This was an Anglican fellowship established in 1913. The headquarters in Cambridge provided a semi-communal Anglo-Catholic environment.

.../

Biographical

- /... Needham applied to join the Oratory as a probationer in 1920 and 1921, and was admitted as a novice from 1921. He was resident at Oratory House.
- A.54 Printed material 1915, 1916, 1919; application to reside in Oratory House and begin noviciate from October 1920; list of the confraternity and calendar; application to become a probationer and reside at Oratory House.
- A.55 Pocket notebook inscribed on first page 'O. G. S. Register of Rcts and payments' September 1921 - 1923. Most pages not used.
- A.56 Hardback pocket notebook inscribed inside front cover '...Admitted to Noviciate, 10.ix.'21. Professed...' and on first page 'Faults in the Rule of O.G.S.'. Used to record his own failings in performing the duties of the Oratory September 1921 - ?January 1922. Most pages not used.
- A.57 Hardback notepad inscribed on first page '..Retreat addresses'. Used for texts of Needham's sermons given while on OGS annual retreat 1921. In pocket at back are loose notes from OGS retreats 1920 and 1922. Most pages not used.
- A.58 Needham's manuscript notes on the Rule of the OGS and personal religious observances; 12pp manuscript draft 'Apology for the Scientific Work of the Oratory' by Needham.
- A.59 Miscellaneous OGS papers, including duplicated manuscript notes of meetings, calendars etc, 1921.
- A.60 Correspondence from OGS members in Cambridge and overseas, March - May 1922 and nd; miscellaneous OGS papers, including duplicated manuscript notes of meetings, etc, 1922, 1923, 1925.
- A.61 Annual reports 1920-21 - 1940-41. Not a complete sequence.

Biographical

- A.62 Confraternity of the Holy Trinity.

Needham was admitted as a member in October 1920.

Pocket manual.

Religious and literary writings

- A.63-A.67 Religious verse, notes on the religious life etc.
- A.63 Exercise book inscribed on front cover 'Sound' but used for 'Abstracts of books bearing on the religious life'.
- A.64 Manuscript draft ?of sermon on Epiphany.
- A.65 'Introit to be sung by the Medical procession of the Guild of St Luke in St Paul's Cathedral'; 'Litany of Natural Science'; poem in honour of St Luke.
- A.66 Poems: 'To the priests of ancient Egypt'; 'The Way'; 'Lord of the World'.

Responsive prayer.
- A.67 Poems: 'Agnosticism'; 'To D.A.'; 'To the Anglican branch of the Catholic Church'; 'The Song of Praise'; 'The Immortality of Matter'; 'Psalm'.

Miscellaneous untitled verse and manuscript notes.
- A.68-A.71 Other verse etc.
- A.68 Poems: 'To the Order of Knights Templars', one dated October 1918; 'On the Chemical Laboratories Cambridge Univ', 28 December 1918; 'Labor Omnia Vincit', January 1919; untitled, December 1918 and January 1919; 'Coal tar', March 1919.

Biographical

- A.69 Poems: 'The District railway The Power Station, Red Lion Square Kingsbury', May 1919; 'The message [or call] of science', May 1919; 'From the Observatory', June 1919; 'The call of Pan', June 1919; 'Peace 1919', 1 July 1919; 'The Labour Party in Palestine', July 1919; 'A dream', July 1919.
- A.70 Undated poems: 'The burden of medical science'; 'The hospital'; 'The bacteriologist's song'; 'In the dissecting-room'; 'In the anatomical department'; 'Traffic'; 'Cui Bono?'; two untitled.
- A.71 'Shakespearian Fragment', 4pp manuscript play; 'The Drama. Ancient and Modern', 2pp typescript.

Correspondence with parents 1919-1923

Needham's father died on 2 August 1920. Nearly all the correspondence is between Needham and his mother. Needham gives accounts of his daily routines, including his private studies, religious observances, and public and university lectures attended. Visits from his mother and financial concerns of the family also figure in the papers.

- A.72 1919.
- A.73 1920 January - August.
- A.74 1920 October.
- A.75 1920 November.
- A.76 1920 December.
- A.77 1921 January - March.

Biographical

- A.78 1921 April - November.
- A.79 1922 January - April.
- A.80 1922 May, July. Includes correspondence *re* visit to Germany. See also H.1A.
- A.81 1922 October - December.
- A.82 1923.
- A.83 Nd.

CAREER, HONOURS AND AWARDS

- A.84 Grant from Worts Fund for visit to Marine Biological Station, Roscoff, October 1925.
- Application for Harrison Memorial Prize, November 1926.
- Payment for Demonstrating, 12 May 192[?].
- A.85 Application for Royal Society Smithson Research Fellowship, 1930.
- A.86 Degree of Sc.D., Cambridge University, 1932.
- Includes accounts of scientific researches and bibliography.
- A.87 Letter from A.R. Moore *re* possible offer of post at Philadelphia, 1932.

Biographical

- A.88 Readership in Biochemistry, 1936.
- Draft of letter to F.G. Hopkins *re* post of laboratory manager, 2 November 1939.
- A.89-A.93 Election to Fellowship of the Royal Society, 1941.
- A.89 Proposal for Election. Includes Needham's 'Memorandum on scientific work from 1923 to 1941' and list of publications.
- A.90-A.93 Letters of congratulation. 4 folders.
- A.90 A-E.
- A.91 F-L.
- A.92 M-S.
- A.93 T-Z, unidentified.
- A.94 Offer of CBE, 1946.
- Election to Membership, Royal Central Asian Society, 1947.
- Award of Order of the Brilliant Star with Cravat, 1949.
- This was awarded to Needham by the Republic of China 'in recognition of his constant efforts in promoting good relations between China and Great Britain'. See also C.42, C.47.
- A.95 Invitation to lead Agricultural Research Council research group on comparative biochemistry, 1951.

Biographical

- A.96 Invitation to become Patron of Cambridge University Graduate Society, 1970.
- Invitation to serve as President of British Society for the History of Science, 1972.
- Invitation to become Patron of the Needham Society, Royal Holloway and Bedford College, 1984.

FAMILY

- | | |
|-------------|---|
| A.97-A.601 | Alicia Adelaide Needham (mother) |
| A.602-A.611 | Joseph Needham (father) |
| A.612-A.616 | John W. Montgomery (maternal grandfather) |
| A.617-A.621 | Dorothy Mary Moyle Needham (first wife) |
| A.622 | Lu Gwei-Djen (second wife) |
| A.623-A.636 | Elizabeth A. Montgomery Wilson (cousin) |
| A.637-A.641 | Photographs |

Alicia Adelaide Needham (mother)

The material presented here was kept by Mrs Alicia Adelaide Needham and passed to Joseph Needham on her death.

Alicia Adelaide Needham (née Montgomery) was born in Ireland in 1863 into a Church of Ireland family in Downpatrick. Alicia Adelaide was an accomplished pianist and had a career as a music teacher. She graduated from the Royal Academy of Music in 1887 and became a Licentiate of the Academy in 1889. In 1892 she married Joseph Needham, a London doctor specialising in anaesthesia. They had one child, Noel Joseph Terence Montgomery Needham, born in 1900.

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Biographical

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Alicia Adelaide Needham continued to give piano recitals after her marriage and in 1893 she passed the examinations to the Associateship of the Royal College of Music. Although she had composed music before her marriage, some of which was performed, she made her reputation as a composer of songs after her marriage. Her first major success was with 'An Irish Lullaby' and other songs at public performances in 1896. Thereafter she was a prolific song-writer and very many of her compositions were published.

Alicia Adelaide Needham was a frequent prize-winner at 'Feis Ceoil' competitions for music with a Celtic theme. In 1902 she won the Earl of Mar's £100 prize for the best March composed in honour of the Coronation of Edward VII. She was the first woman President of the Royal National Eisteddfod of Wales and during the First World War she became the first woman to conduct at the Royal Albert Hall (the band of the Irish Guards).

The material includes her autobiography 'A Daughter of Music', her diaries covering the period 1879-1924, musical compositions and material relating to her career as pianist and a song-writer, and extensive correspondence 1877-1921, chiefly that of Alicia Adelaide Needham but also including letters of her husband (Joseph Needham). The marriage was not always happy and the marital difficulties are frequently reflected in the diaries and later correspondence.

The material is presented as follows:

A.97, A.98	Autobiographical
A.99-A.135	Diaries
A.136-A.417	Musical career
A.418-A.464	Notes and reflections
A.465-A.596	Correspondence
A.597-A.601	Miscellaneous

Biographical

Autobiographical

- A.97 Alicia Adelaide Needham's autobiography, 'A Daughter of Music'.

122pp typescript, with extensive manuscript corrections and additions.

The autobiography records her life up to 1926 and concludes with an account of her visit to Italy in that year.
- A.98 Autobiographical account by Alicia Adelaide Needham in 'M.A.P.' magazine, March 1906, pp.276-277.
- Biographical account of Alicia Adelaide Needham by Eitne Ni Peadair in *The Leader* 23 no. 14 (April-May 1916), pp.277-278.

Diaries

A sequence of Alicia Adelaide Needham's private diaries in varying formats. The diaries document family relationships, domestic arrangements, finances, health, emotional states, music, social activities and visits. There are also a number of notebooks used for diary style entries for short periods and particular purposes, such as foreign holidays and family illnesses. A.99 is a condensed chronicle from the diaries she kept in Downpatrick in Ireland before her marriage in 1892.

Many of the diaries are in poor condition and, particularly those from 1917, are bulky with loose papers intercalated or with diary entries pasted or, more usually, pinned into the volumes. Intercalated material may include manuscript notes, entries torn from other (mostly pocket) diaries or written on loose scraps of paper, newspaper cuttings, letters and drafts of letters, and memorabilia.

- A.99 Notebook inscribed on first page 'Ada Montgomery Condensed Diary Private Downpatrick' covering the period 1879-1891 and 'The honeymoon with my own Doctor Darling August 1892'.
- A.100 1893. Loose papers enclosed inside front cover.
- A.101 1895. Last entry 26 July. Loose papers enclosed.

Biographical

- A.102 1895. Used from 27 July.
- A.103 1896. Pasted at front of diary are newspaper reports of death of mother, Mrs J.W. Montgomery, in Downpatrick. Loose papers enclosed.
- A.104 Notebook used for diary of visit to France, August 1897. Loose papers enclosed.
- A.105 1898. Loose papers enclosed.
- A.106 1899. Loose papers enclosed.
- A.107 Notebook used for diary style entries for December [1900] and January 1901. Last entry is for 24 January. Loose papers enclosed including notes dated 2 August 1897 and pages torn from 1901 pocket diary.
- A.108 1901. Used from 25 January. Loose papers enclosed.
- A.109 1903. Loose paper enclosed.
- A.110 1904. Loose papers enclosed.
- A.111 1904. Used March to July only. Brief entries relating to her son, Joseph. Later entries in other hands, probably his nurses'.
- A.112 Foolscap notebook used as 1905 diary.
- A.113 Notebook used for diary entries May to August 1905. Loose papers enclosed.

Biographical

- A.114 1906. Loose papers enclosed.
- A.115 1910. Loose papers enclosed including 'My diary of Cromer' kept by her son, Joseph, for a few days during visit to Cromer in August, and letter from Lord Castletown, 16 July 1909.
- A.116 Notebook used for diary and notes on visit to Italy, November - December 1910.
- A.117 Notebook used for visit to Italy and France, December 1910 (continuation of preceding). Loose papers enclosed including five letters from friend in Italy, December 1910 - January 1911 (in French).
- A.118 1911. Loose papers enclosed.
- A.119 1912. Loose papers enclosed.
- A.120 1913. Loose papers enclosed.
- A.121 1915. Loose papers enclosed including at front text of agreement between the Needhams about financial arrangements, 31 October 1897.
- A.122 1915. Used occasionally June - September.
- A.123 1916. Loose papers enclosed.
- A.124 1917. Many loose papers enclosed including resolution by her son, Joseph, to maintain strict neutrality in parental disputes, 1 August.
- A.125 1918. Many loose papers enclosed.

Biographical

- A.126 1918. Very few diary entries before October. Loose papers enclosed, including at front letter from Joseph Needham to his wife, 3 November 1918, written on receipt of telegram from her at Cambridge relating to the health of their son. See A.127.
- A.127 Notebook used for record of progress of son's illness at Gonville and Caius College, Cambridge, [October] - November [1918].
- A.128 1919. At front of diary is brief account of her wartime work for the army. Many loose papers enclosed.
- A.129 1919. Use largely confined to April - July and October. Loose papers enclosed.
- A.130 1920. Many loose papers enclosed, including at front unfinished draft letter to Lloyd George, Prime Minister, *re* reward for Dr Needham 'before it be too late'. The first three pages of the memoranda section of the diary are used for a draft letter on behalf of her husband and herself to Winston Churchill MP, giving account of their services to the army and navy and seeking recognition, dated 16 June 1920.
- A.131 Notebook used for record of final days of Joseph Needham, husband, 20 July - 2 August 1920. Most pages not used. Loose papers enclosed at rear.
- A.132 1921. Many loose papers enclosed including at back two letters from Mrs Needham's bank, 26 and 27 May, *re* overdraft.
- A.133 1922. Includes entries for holiday on the continent, accompanied for some of the period by her son (see A.80, H.1A). Many loose papers enclosed.
- A.134 1924. Many loose papers enclosed.
- A.135 Exercise book used for brief diary entries, November - December 1932.

Biographical

Musical career

Most of the correspondence relating to Alicia Adelaide Needham's musical career as a pianist, composer and examiner is retained with other personal and domestic correspondence at A.465-A.596.

- A.136 Testimonials and references 1884-1889, on Alicia Adelaide Needham's musical and other accomplishments and personal character.
- A.137 'First letter' from A.D. O'Leary, tutor; receipts for fees for study at Royal Academy of Music, London, 1887.
- A.138 Correspondence and papers *re* examinations for Licentiatehip of Royal Academy of Music, 1888-1889. For letters of congratulation see A.544.
- Notification of date of examination for sight-singing examination, Royal Academy of Music, 7 June 1894.
- A.139, A.140 Papers *re* Associateship of Royal College of Music, 1893.
- A.139 Examination papers, annotated by Alicia Adelaide Needham.
- A.140 Application to enter for examination; notice of those passing examination; etc.
- A.141, A.142 Performances by Alicia Adelaide Needham.
- A.141 Ulster Minor Hall, Belfast, 4 September 1890.
Programme: press review.
- Town Hall, Castletown, 13 January 1891.
Programme; press review.

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Biographical

- /... Cutler's Hall, [?Sheffield], April 1891.
Programme.
- Lecture Hall, Stamford Street, London, 31 October 1891.
Programme.
- A.142 Royal Academy of Music Fortnightly Concert, 16 June 1894.
Annotated programme.
- Clapham Philharmonic Society, 26 March 1896.
Programme.
- A.143-A.145 Performances by others of music by Alicia Adelaide Needham.
- A.143 'Olympia' March, Royal Irish Rifles, Downpatrick Amateur Athletic Sports Day, 28 June 1888.
Programme.
- 'An Irish Lullaby' and 'The Exile's Return', Albert Hall, London, 17 March 1896.
Press review.
- Press notice of performances of 'An Irish Lullaby', 'Maureen' and 'Pastheen Fion', March 1896.
- A.144 'Salutation to the Celts' and 'The Irish Lullaby', Pan-Celtic Congress, Caernarvon, 30 August - 3 September 1904.
Programme of Congress, including concerts.

Biographical

- A.145 'Patriotic Song Cycle', Palladium, London, June 1913.
Press review.
- Two songs, Rochdale Philharmonic Society, 15 March 1921.
Press review.
- A.146-A.409 Songs.
- A.146-A.350 Individual songs
- A.351-A.400 Song cycles
- A.401-A.409 Instrumental music
- A.146-A.350 Individual songs
- A.146 'Ambitions'
Words by Frederic Manley.
- A.147 'Among the stubble barley'
Words by Katherine Tynan Hinkson
- A.148 'An ancient lullaby'
- A.149 'And Ihesus is hys name'
Words from a fifteenth-century manuscript.
- A.150 'And then no more'
Words by James Clarence Mangan.

Biographical

- A.151 'The apostles' creed'
- A.152 'The army and navy of Britain for ever!'
- A.153 'As Joseph was a-walking'
- A.154 'At last'
- Sacred Song. Words by Whittier. Dated Summer 1899.
- A.155 'Awake! Awake!'
- Words by Elizabeth Birch. Copyright Boosey & Co. 1907.
- A.156 'Bad luck to their marching'
- Words by Charles Lever. Dated ?1903.
- A.157 'The barley sheaves'
- Words by Gunby Hadath. Copyright Boosey & Co. 1902.
- Composed for and sung by Madame Clara Butt.
- A.158 'Basket-makers'
- Words by E.V. Lucas.
- 'Behave yoursel' afore folk'
- Words by Alex Rodger.
- A.159 'Bespattered'

Biographical

- A.160 'Bethlehem'
Words by Phillips Brooks.
- A.161 'The bird in the woods'

'The birds in the winter'

'A bright idea'
- A.162 'The brown thrush'
Words by Lucy Larkom.
- A.163 'Bumble Bees'
Words by Frederic Manley.
- A.164 'A bunch of heather'
Copyright Boosey & Co. 1910.
- A.165 'The chase'
Words by H. Suso.
- A.166 'Christmas Bells'
Words by Longfellow.
- A.167 'Christmas carol'

Biographical

- A.168 'Christmas cradle hymn'
Words attributed to Martin Luther.
- A.169 'Christmas cradle song'
Words by Isaac Watts.
- A.170 'The Christmas log'
- A.171 'Christmas merrymaking'
Words by George Wither.
- A.172 'Chums'
Words by W.M. Hackleton.
- A.173 'Clip, Clap goes the mill'

'Clipped wings'
Words by G.M. George. Copyright Houghton & Co. 1908.
- A.174 'Come let us adore him'

'Hymn no.1'
Words by 'Nunc aut nunquam'.
- A.175 'Content (Ike Walton's Prayer)'
Words by James Whitcomb Riley. Copyright Boosey & Co. 1902.

Biographical

- A.176 'The coolin'

Arrangement of ancient Irish air. Words (translated from the ancient Irish)
by Francis A. Fahy. Copyright Ascherberg, Hopwood & Crew Ltd 1909.
- A.177 'The conjurer'
- A.178 'Cradle song'

 'The crows'
- A.179 'The cuddle place'

Words by M.L.A.

 'Curly locks'
- A.180 'Daffodil'
- A.181 'The dashing white sergeant'
- A.182 'Daughters of England'

Words by Margaret A. Martin. Copyright Houghton & Co. 1908.
- A.183 'Dear Erin, how sweetly thy green bosom rises'
- A.184 'Dolly'
- A.185 'Dolly's funeral'

Biographical

- A.186 'Dream, darling, dream'
Dated 3 December 1905.
- A.187 'Drinking song'

'Eileen Aroon'
Arrangement of ancient Irish air and words.
- A.188 'Ere the daylight be gone'
- A.189 'Facts for little folks'

'The fairies'
- A.190 'The fairy's lullaby'
- A.191 'Far from my heavenly home'
Sacred song. Words by Henry Francis Lyte.
- A.192 'Fighting on'
Words by Constance Clyde. Copyright Houghton & Co. 1908.
- A.193 'The fireman'
- A.194 'The fountain'
Words by James Russell Lowell. Dated 20 February 1905.
- A.195 'Frowns and smiles'

Biographical

- A.196 'The geese are getting fat'

Christmas carol.
- A.197 'The girl I left behind me'

Arrangement of ancient Irish air. Words by Alfred Percival Graves.
Copyright Boosey & Co. 1900.
- A.198 'Girl of the red mouth'

Words by Martin MacDermott.

'A gladsome hymn of praise will sing'

Hymn. Dated Christmas 1893.
- A.199 'Glenara'

Words by Robert Dwyer Joyce. Copyright Boosey & Co. 1900.
- A.200 'God rest ye merry gentlemen'

Christmas carol.
- A.201 'Golden bridges'

Words from the German.
- A.202 'Golden feather.
- A.203 'Good luck and bad'

'The good shepherd'

Biographical

- A.204 'Goodnight little maid'

 'Great golden sun'
 Words by Rona White. Dated 26 July 1905.
- A.205 'Great, wide, beautiful wonderful world'
 Words by W.B. Rands.
- A.206 'Green sprigs'
 Words by Augusta Hancock.
- A.207 'He, she and they'
- A.208 'Help yourself'
- A.209 Here's a health unto his majesty'
- A.210 'The holly'
 Cornish Christmas carol. Words by R.S. Hawker.
- A.211 'Hope or a winter's view'
 Words by J. Logie Robertson.
- 'Hot potatoes'
 Words by E.V. Lucas.

Biographical

- A.212 'How many days has my baby to play?'

 'I need thee, precious Jesus'
- A.213 'I once loved a boy'

 An old street ballad (1800). Dated October 1904.
- A.214 'I think when I read that sweet story of old'
- A.215 'I walk with God, he walks with me'
- A.216 'I wouldna gie a copper plack'

 Words by Mary A Barr.
- A.217 'If'

 Words by Morley Roberts.
- A.218 'If and perhaps'
- A.219 'If I were a fish'

 Words by S.A.G.
- A.220 'If thoughts were birds'

 Dated July 1909.
- A.221 'Ilka blade of grass'

 Words by James Ballantine.

Biographical

- A.222 'I'm a merry, merry squirrel'
Words by Norman MacLeod.
- A.223 'In a wooden cradle'
Christmas carol

'In defence of his country'
Words by E. Searchfield.

'Dedicated to my little soldier Terence.'
- A.224 'In my dreams'
Words by Pakenham Thomas Beatty. Copyright Boosey & Co. 1902.
- A.225 'In the fields with their flocks abiding'
Christmas carol.

'In the swing'
Words by Eudora S. Bumstead.
- A.226 'Irish cradle song'
Words by Francis A. Fahy. Copyright Pigott & Co. 1910.
- A.227 'Irish education'
- A.228 'An Irish lullaby'
Full score. Words by Francis A. Fahy, orchestrated by John Storer.

Biographical

- A.229 'The iron horse'
Dated 8 July 1905.
- A.230 'It's no very lang sin syne'
Stamped Boosey & Co. 11 January 1910.
- A.231 'A jack o'tar'
- A.232 'The jolly ploughboy'
Arrangement.

'Keep a watch on your words my darlings'
- A.233 'Keep pegging away'
Words by Rev. Canon Langridge.
- A.234 'The key to the box'

'Kind, beautiful wonderful God'
- A.235 'The kiss ahint the door'
Words by T.C. Latto.
- A.236 'Kittens'
Words by Betty Sage.

Biographical

- A.237 'Knitting war song "Soldier, soldier dear unknown" '
Words by Adrienne Cambry. Dated 12 February 1915.
Dedicated to the British Expeditionary Force and Britain's allies.
- A.238 'Knowest thou God for thy father?'
- A.239 'Ladybird, ladybird'
- A.240 'Lady Moon'
Words by Lord Houghton.
- A.241 'Land of our fathers'
Arrangement. Words by Alfred Percival Graves.
Dedicated 'to all our pan-celts'
- A.242 'Land of the Counterpane'
Words by Robert Louis Stevenson. See also A.284.
- A.243 'The lapful of nuts'
Words by Sir Samuel Ferguson. Copyright Boosey & Co 1912.
- A.244 'Laugh it off'
Words by Henry Rutherford Elliot.
- A.245 'The limitations of youth'
Words by Eugene Field. Dated 3 February 1902.

Biographical

- A.246 'Listen, lordlings unto me'
Carol for Christmas Eve.

'A little bird'
- A.247 'The little boy and the stars'
- A.248 'A little cradle song'
Christmas carol. Words from the Spanish.
- A.249 'The little drummer'
Words by Gouverneur Morris. Copyright Boosey & Co. 1906.
- A.250 'Little Poll parrot'

'Little shoes'
Words by Theodore Botrel.
- A.251 'Little soldiers'.

'The lobster and the can'
Words by Felix Leigh.
- A.252 'Look up the street'
- A.253 'Lord of our far-flung battle-line'
Words by Rudyard Kipling.

Biographical

- A.254 'The Lord's Prayer'
- A.255 'The lost boy'
Words by Ellen Manly.
- A.256 'The lost doll'
(From the Water Babies) Charles Kingsley .

'Love song of Elizabethan days'
Words by Michael Scanlon. Dated 23 January 1905.
- A.257 'A lovely lady sat and sang'
Christmas carol.

'Making cakes'
- A.258 'Mamma's kisses'
- A.259 'Marching on'
Words by John Russell.

'A merry, merry Christmas'
Words by Robert Herrick.
- A.260 'La meunière'
Words by Theodore Botrel. Copyright Boosey & Co. 1906.

Biographical

- A.261 'The milestone'
Words by Patrick Byrne. Copyright Boosey & Co. 1912.
- A.262 'The mill'
- A.263 'Miss Maria (The sewing-woman)'
Words by Betty Sage.
- A.264 'The moon shone bright'
Christmas carol.
- A.265 'Mr Nobody'
Words by E. Snowden.
- 'Mustard and cress'
Words by Norman Gale. Dated 2 September 1911.
- A.266 'My ain hoose'
- A.267 'My heart's delight'
Words by E. Nesbitt. Copyright Boosey & Co. 1902.
- A.268 'My little secret'
Words by A.M.R.D.
- 'My mither tongue'
Words by David Grant. Copyright Boosey & Co. 1910.

Biographical

- A.269 'My wings were so bedraggled with the wet'
Words by J. Lea.
- A.270 'Nail your colours to the mast'
Words by J. Lea.
- A.271 'The nest'
'A nestful of wrens'
Words by Queenie Scott-Harper.
- A.272 'The new moon'
Words by A. Follen.
- A.273 'Now! Now! Now!'
Words by Adelaide A. Proctor.
- A.274 'Now the day is over'
'On yesternight I saw a sight'
Christmas carol.
- A.275 'One and two'
- A.276 'One at a time'
- A.277 'One nest together'
Words by Christina Rossetti.

Biographical

- A.278 'Our bank'
Words by E.V. Lucas.
- 'Our student days'
Words by H. MacNaughton-Jones.
- A.279 'Out over the Forth'
Words by Robert Burns.
- A.280 'Pansies, lilies, roses'
Hymn for children. Dated December 1893.
- A.281 'Peace and goodwill'

 'Peace be around thee'
Words by Thomas Moore.
- A.282 'Perpetual Christmas in thy soul'
Words by Lucy A. Bennett.
- 'Piggie-wig, and Piggie-wee'
- A.283 'Pitty-pat and tippy-toe'
Words by Eugene Field. Copyright Boosey & Co. 1901.
- A.284 'The pleasant land of counterpane'
Words by Robert Louis Stevenson. See also A.242.

Biographical

- A.285 'Please'

 'Politeness'
- A.286 'The post office or a stamp'

 'A prayer'
 Words by James Whitcomb Riley.
- A.287 'Queer relations'
- A.288 'The red deer'
 Words by Katherine Tynan Hinkson.
- A.289 'Riflemen, form'
 Words by Lord Tennyson.

 'The robin'
- A.290 'The rock-a-bye lady'
 Words by Eugene Field.
- A.291 'Saw ye him whom my soul loveth saw ye him?'
- A.292 'Scarlet and gold'
 Words by May Byron.

Biographical

- A.293 'Scotch lines to A.S.B. (from an unintelligent foreigner)'
Words by Bret Harte.
- A.294 'Scotland yet'
Words by Henry Scott Riddell.
- A.295 'A sea-song'
Words by James Whitcomb Riley.
Dedicated 'to my little boy-blue'.
- A.296 'Serenade "Eager night enfolds thee" '
- A.297 'Seven times one'

'Singing merrily'
- A.298 'Snow (in town)'
Words by Rickman Marks.
- A.299 'Soft is the music'
Waltz song. Words by C. H. St. L. Russell.
- A.300 'The sparrows'
Words translated from the German by Francis A. Fahy.
- A.301 'The spider and his wife'

Biographical

- A.302 'Spinning song Nance O'Neill'

Words by Katherine Tynan Hinkson. Dated Sunday 7 December 1902.
- A.303 'Spring song'

 'Spring song'

Words by Marcia Tyndale.
- A.304 'A stirrup cup song'
- A.305 'Sweet and low'

Words by Tennyson.

 'The sweet May weather'

Words by Katherine Tynan Hinkson.
- A.306 'The sweet o' the year'

Words by Katherine Tynan Hinkson.
- A.307 'Sweetest love, I do not go for weariness of thee'

Words by John Donne. Copyright in the US Black and White Publishing Co.
1905.
- A.308 'The swing'

Words by Robert Louis Stevenson.

 'Swinging and swaying'

Cradle song. Copyright by Alicia Adelaide Needham 1907.

Biographical

- A.309 'Sympathy'
- A.310 'There is joy in heaven'
- A.311 'There was a knight of Bethlehem'
Christmas carol.
- A.312 'There was a little girl'
Words by Longfellow.

'There were two birds'
- A.313 'Thine in storm and shine'
Words by Katherine Tynan Hinkson. Dated 14-15 February 1902.
- A.314 'Tit for tat'

'To let - a little lonely heart'
Copyright G.Ricardi & Co. 1921.
- A.315 'To my fair colleen'
Words by 'Cruck-a-Leaghan'
Dedicated to Mrs Benecke (née Mendelssohn-Bartholdy).
- A.316 'To set the world rejoicing'
- A.317 'To the unknown many'

Biographical

- A.318 'Tortoise shell'

 'The trees or Spring song'
 Words by E.Nesbit.
- A.319 'Trumpets and drum'

 Cradle song. Words by Sir Walter Scott.

 'Twitter and cheep'
- A.320 'The two dollies'

 Words by L.E. Tiddiman.
- A.321 'The two Johnnies or two different little boys'

 Dated 11 October 1910.
- A.322 'Under-the-table manners'
- A.323 'Up at Piccadilly, oh!'

 'Very tired'
 Words by H.P. Hawkins.
- A.324 'The virgin & child'

 Christmas carol.
- A.325 'The virgin's cradle hymn'

 Christmas carol.

Biographical

- A.326 'Visitors'
Words by Helen H. Whitney.
- A.327 'Waiting for the May'
Words by Florence McCarthy.
- A.328 'Waking up'
Words by Alexander Anderson.
- A.329 'Wander-thirst'
- A.330 'The wandering knight's song'
Words from the Spanish. Copyright Boosey & Co. 1902.
- A.331 'Washing the dishes'
Words by Hannah G. Fernald.
- 'The watchmaker'
Words by E.V. Lucas.
- A.332 'The waves on the seashore'
Words by Mrs Hawkshawe.
- A.333 'The way of the world'
Words by Ella Wheeler Wilcox. Dated July 1903.

Biographical

- A.334 'Wee Willie Winkie'
Copyright Boosey & Co. 1910.
- A.335 'What are little boys made of?'

'What I learn'
Words by Constance M. Lowe.
- A.336 'What my lover said'
Words by Horace Greeley.
- A.337 'What the clock says'
- A.338 'What the flowers said'
- A.339 'When I'm a grown-up lady'

'When in death I shall calm recline'
Arrangement of ancient Irish air. Words by Thomas Moore. Dated 13
September 1933.
- A.340 'Which'

'Which way does the wind blow?'
Word by Lucy Aikin.
- A.341 'White bread and brown bread'

Biographical

- A.342 'Wishing'
Words by William Allingham.
- A.343 'With all your might'
- A.344 'Wynken, blynken and nod'
Words by Eugene Field. Dated May 1920.
- A.345 'Ye bargayne'
Copyright G. Ricardi & Co. 1921.
- A.346 'Young birds'
Words by E. Snowden.
- A.347 'Your father's boreen'
Copyright Dr Joseph Needham 1897.
- A.348 Untitled and incomplete.
- A.349, A.350 Miscellaneous shorter pieces. Principally children's and nursery songs. 2 folders.
- A.351-A.400 Song collections
- A.351-A.359 Army and Navy song cycle for four voices.
Orchestrated by Cellan Kottaun. Copyright Boosey & Co. 1912.
9 folders.

Biographical

- A.360-A.363 Scottish song cycle
4 folders.
- A.364-A.369 Song cycle for four voices.
List of twelve songs (one crossed out) and music and words for ten of the
remaining eleven listed songs.
6 folders.
- A.370 Song cycle for four voices.
List only of twelve songs. Not identical to the preceding.
- A.371, A.372 Four trios for ladies voices.
2 folders.
- A.373 Three sacred songs.
Copyright Boosey & Co. 1903.
Two copies.
- A.374, A.375 Ten sacred songs.
List of ten songs with music and words for three of them.
Dedicated 'to my son Doctor Joseph Needham Sc.D. M.A.. Ph.D. Fellow of
Caius Coll. Cambridge.'
2 folders.
- A.376-A.378 Six old English songs.
3 folders.

Biographical

- A.379 'Feis'. Contents of folder so inscribed: manuscripts of songs composed for ?Irish song festival.
Dated December 1898.
- A.380 Four Irish songs.
List only.
- A.381 Hymns for children.
Dated 1893.
- A.382-A.385 Songs for children.
List of twelve songs and words and music of ten of them.
4 folders.
- A.386-A.390 French songs for children.
List and words and music for ten songs.
5 folders.
- A.391-A.399 Twenty songs.
List and words and music of the first nineteen songs.
9 folders.
- A.400 Lists of contents of published volumes of songs: 'Three volumes very easy for children'; '5 volumes, songs for children'; '3 duets for ladies voices'; 'Good night songs'; 'Songs for grownups'.

Biographical

- | | |
|-------------|---|
| A.401-A.409 | Instrumental music |
| A.401 | 'Duet in canon'

'Copied' 1891. |
| A.402 | 'Work in free Bach style'

Dated in November 1897, February 1898. |
| A.403 | Manuscript music book containing Irish airs, reels. Letter pasted inside front cover dated 1 June 1899. |
| A.404 | 'Arrangement of Irish airs ... for the Harp'

Dated 27 February 1902. |
| A.405 | 'Lament for violin and pianoforte' |
| A.406 | 'Berceuse'

'Gigue' |
| A.407 | 'Nocturne'

'Invitation to the dance' |
| A.408 | 'In C' |
| A.409 | Untitled and incomplete. |

Biographical

- A.410-A.417 Miscellaneous material
- A.410 *Aufgabenbuch zu E. Friedr. Richter's Harmonielehre* by A. Richter (Leipzig 1892), annotated by Alicia Adelaide Needham.
- A.411 Calendars for Royal Academy of Music, 1893-1894, 1894-1895.
- A.412 Student's Concert Tickets for Royal Academy of Music, 1887, 1893-1895.
- A.413 Examination papers for Licentiatehip of Royal Academy of Music 1890-1893.
- A.414 Manuscript timetables for music practice or tuition 1893, 1894, 1896 and nd.
- A.415, A.416 Programmes of concerts attended etc. 2 folders.
- A.417 Royalty account from Boosey & Co., January - June 1916.

Notes and reflections

Alicia Adelaide Needham's manuscript notes on books read, including biographies and religious and philosophical literature, and notes on similar themes. She may have planned to write a reflective book on religious themes, possibly drawing on her own experiences and thoughts. The material appears to date from after the First World War, perhaps after the death of her husband in 1920.

Unless otherwise indicated the notes are in Alicia Adelaide Needham's exercise books. However, some have had pages removed, and many were used only for a few pages and not always from the front. A number lack their covers. There are also loose manuscript notes, some on pages torn from similar exercise books.

- A.418-A.421 Four exercise books used for notes on 'Books read'.

Biographical

- A.422 Used for 'Notes from books'.
- A.423 Used for notes on 'The 7 strings of the lyre George Sand by Elizth
[?]Schennerhorn. Heinemann'.
- A.424 Used for notes on biography of 'Bryon by Brecknock (Cecil Palmer) [...]'.
.
- A.425 Used for notes on biographies of 'Leo Tolstoy Lord Kitchener'.
- A.426 Used for notes on 'The Tragedy of Ruskin by Amabel Williams Ellis [...]'.
.
- A.427 Used for notes on 'Eleanor Duse by Rheinhardt (Martin Secker)'.
- A.428 Used for notes on biography of Mozart.
- A.429 Used for notes on biographies of Prince ?Lichnosky and Lady Byron.
- A.430 Used for notes on biographies of Tolstoy, Blavatsky and W.S. Gilbert.
- A.431 Used for notes on Woodrow Wilson, wartime reminiscences of Colonel
House and biography of Schubert.
- A.432 Used for notes on Ernest Renan, biographies of General Gordon and
Abraham Lincoln, and work of R.H. Benson.
- A.433 Used for notes on life of Christ and biography of 'The Two Carlyles'.
- A.434 Used for notes on 'The Hand [palmistry] The Story of Christ Plato'.

Biographical

- A.435 Used for notes on 'Lectures'.
- A.436 Used for notes on works of T.E. Lawrence (of Arabia).
- A.437 Used for notes on 'Blavatsky + Gounod'.
- A.438 Used for notes 'From Climax of Ages' and on books by Sir Oliver Lodge and Maude Royden.
- A.439 Used for notes on poetry of Robert Browning, work of G.K. Chesterton.
- A.440 Pocket notebook used for notes on the religious life, especially the hereafter.
- A.441 Used for notes on 'Adventure (Rosita Forbes) Cassell & Co.'
- A.442 Used chiefly for notes on astrology.
- A.443, A.444 Two exercise books used for 'Notes for Book'.
- A.443 Includes notes on indigestion, King Edward VII's illness, and notes on books 'The Aquarian Gospel' by Levi and 'Esoteric Christianity' by A. Besant.
- A.444 Notes on 'My Life & Times' by Jerome K. Jerome and 'Goodbye to all that' by Robert Graves'.
- A.445 Used for notes on 'Diary A.B. Benson My dreams'.
- A.446 Used for notes on 'Dreams + Parry R.L. Stevenson'.

Biographical

- A.447 Used for notes on 'Dreams'.
- A.448 Used for notes on 'Agonies, Remember Dreams'.
- A.449 Used for notes on psychical experiences.
- A.450 Used for notes on 'psychic photography' etc.
- A.451 Used for notes on meanings of Biblical passages and records of dreams.
- A.452 Used for notes on body and spirit and on 'Lecture on Egypt'.
- A.453 Used for notes on the supernatural power etc of the hands, and lists of photographs taken. Also includes draft letter to Eamon de Valera, August 1927, expressing willingness to join his Fianna Fail party and if required serve the party in the Irish parliament.
- A.454 Used for 'Prayer to God' (in Latin).
- A.455 Used for notes at front including list of books on Palestine and the Bible.
- A.456 Used for brief notes at back on the First World War, an Everest expedition, and life of Christ.
- A.457 Inscribed on front cover 'Italian Words Composition'. Used for list of Italian words and expressions for use in music, and notes on religious themes.
- A.458-A.464 Loose manuscript notes.
- A.458 'Notes for book' on inoculation, Pompeii and India.

Biographical

- A.459 Biographical notes on Marconi, Clemenceau and Goethe.
- A.460 Notes on Plato and Platonism.
- A.461 Notes on 'Dreams', 'The Shining Ones from the Great Beyond', 'The Devil' and 'Religious experience'.
- A.462 Notes found clipped together relating chiefly to art and religion including 14pp account beginning 'Mr Heaphy spent a night in the catacombs', and to financial matters.
- A.463, A.464 Miscellaneous notes. 2 folders.

Correspondence

The material presented here is family, personal and professional correspondence received by Alicia Adelaide Needham, together with family correspondence sent by her and subsequently recovered on the deaths of the relatives to whom they were sent.

The principal sequence of correspondence is that between Alicia Adelaide and her husband Joseph Needham. The bulk dates from their courtship and engagement, November 1891 - August 1892. There are also some later letters.

There are personal letters received before and after her marriage, letters to other family members (chiefly her parents), and correspondence relating to her songs and performances.

A.465-A.537 Correspondence with Joseph Needham

A.538-A.596 Other correspondents

Biographical

- A.465-A.537 Correspondence with Joseph Needham, 1891-1914.
- Alicia Adelaide Montgomery and Joseph Needham met in London in autumn 1891. Joseph proposed in December 1891 and they were married in August 1892. During their engagement they conducted a voluminous correspondence, very often she wrote him more than one letter a day.
- Alicia Adelaide's letters are often illustrated by her with decorative or humorous pictures, often self-portraits, or have bars of music or verse. A number contained enclosures such as newspaper cuttings, posies of flowers and pieces of fabric. Some of her earlier letters are represented by rough drafts.
- Also included in this sequence is memorabilia from their engagement and their honeymoon in Scotland.
- A.465 1891 November 5-20. Includes rough drafts.
- A.466 1891 November 24-29. Includes rough drafts.
- A.467 1891 December 7-12.
- A.468 1891 December 13-16.
- A.469 1891 December 19-22. Includes rough draft.
- A.470 Notebook used at the back for rough drafts of letters 6 December 1891 - 22 January 1892 and at the front for record of their meetings 16 November - 4 December 1891. Loose at back are family and personal letters to Alicia Adelaide Needham, 1892, 1893 and nd.
- A.471 Nd [1891]. Includes rough drafts.
- A.471A Memorabilia from 1891: list of teachers at Clapham Ladies College (includes Alicia Adelaide Montgomery), programmes for Crystal Palace, 12 and 19 December.

Biographical

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| A.472 | 1892 January 5-10. |
| A.473 | 1892 January 11-14. |
| A.474 | 1892 January 15-20. |
| A.475 | 1892 January 21-25. |
| A.476 | 1892 January 26-31. |
| A.477 | Notebook used for rough drafts of letters January - February 1892. |
| A.478 | 1892 February 1-3. Includes rough drafts. |
| A.479 | 1892 February 3-6. |
| A.480 | 1892 February 8-10. Includes rough draft. |
| A.481 | 1892 February 11-13. Includes rough draft. |
| A.482 | 1892 February 14-18. |
| A.483 | 1892 February 19-21. |
| A.484 | 1892 February 22-25. |
| A.485 | 1892 February 26-29. |

Biographical

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| A.486 | 1892 March 1-4. |
| A.487 | 1892 March 5-10. |
| A.488 | 1892 March 11-20. |
| A.489 | 1892 March 21-22, 27-29. Alicia Adelaide Montgomery visited Joseph Needham 23-26 March. |
| A.490 | 1892 March 30-31. |
| A.491 | 1892 April 1-6. |
| A.492 | 1892 April 7-11. |
| A.493 | 1892 April 12-16. |
| A.494 | 1892 April 17-20. |
| A.495 | 1892 April 21-26. |
| A.496 | 1892 April 27-30. |
| A.497 | 1892 May 1-6. |
| A.498 | 1892 May 7-10. |

Biographical

A.499 1892 May 11-15.

A.500 1892 May 16-20.

A.501 1892 May 21-25.

A.502 1892 May 26-28.

A.503 1892 May 29-31.

A.504 1892 June 2-7.

A.505 1892 June 8-11.

A.506 1892 June 12-16.

A.507 1892 June 17-20.

A.508 1892 June 22-23.

A.509 1892 June 25-30.

A.510 1892 July 1-5.

A.511 1892 July 6-9.

Biographical

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|--------------|---|
| A.512 | 1892 July 11-14. |
| A.513 | 1892 July 15-17. |
| A.514 | 1892 July 19-21. |
| A.515 | 1892 July 22-23. |
| A.516 | 1892 July 24-27. |
| A.517 | 1892 July 28-31. |
| A.518 | 1892 August 1-3. |
| A.519 | 1892 August 4-6. |
| A.520 | 1892 September - December. |
| A.521 | 1892. Incomplete letters. |
| A.522, A.523 | Nd [1892]. 2 folders. |
| A.524-A.526A | Memorabilia from 1892. |
| A.524, A.525 | 'Scotch Tour 1892 Honeymoon'. Contents of envelope so inscribed divided into two for ease of reference. |
| A.524 | Letters of congratulation on marriage, September - October. |

Biographical

- A.525 Receipts and other memorabilia from honeymoon in Scotland.
- A.526 Miscellaneous memorabilia, including receipt for wedding ring.
- A.526A Flower display sent to Joseph Needham by Alicia Adelaide.

Large sheet of blotting paper to which thirteen flowers have been attached by white thread. The flowers are numbered 0-12 and beneath each are lines identifying (or failing to identify) them.
- A.527 1893-1894.
- A.528 1895 July.
- A.529 1895 August.
- A.530 1895 September, October.
- A.531 1896-1898.
- A.532 1902. Chiefly correspondence to Alicia Adelaide Needham on holiday in Switzerland.
- A.533 1904.
- A.534 1907-1909.
- A.535 1912, 1914.

Biographical

- A.536 Incomplete and undated letters.
- A.537 Notebook used for drafts of letters to Joseph Needham, nd.
- A.538-A.596 Other correspondents.
Frequent correspondents include J. Frizelle, chiefly on religious matters 1885-1890, who proposed to her in October 1890; Blanche and Bec Stevenson, friends in Ireland; J.P. Addey and A.D. O'Leary, tutors at the School of Art, Londonderry and the Royal Academy of Music, London respectively; her parents John W. and Mary Jane Montgomery and her sisters Annie Elizabeth Montgomery and Maude Pilcher; F.A. Fahy of the Irish Literary Society, London; and Emily Ward ca.1900-1903.
There are many undated or partially dated letters.
- A.538 1877, 1881, 1884.
- A.539 1885.
- A.540 1886.
- A.541 1887.
- A.542 1888 February - July.
- A.543 1888 August - December.
- A.544 1889 January - June. Includes letters of congratulation on passing examination for Licentiatehip of Royal Academy of Music.
- A.545 1889 July - December.

Biographical

- A.546 1890 January - March.
- A.547 1890 April - August.
- A.548 1890 September - December. Includes proposal of marriage from J. Frizelle, 31 October.
- A.549 1891.
- A.550 1892 January - September. Includes letters of congratulation on engagement and *re* marriage.
- A.551 1892 October - November.
- A.552 1892 December.
Nd [1892].
- A.553 1893 January - May.
- A.554 1893 June - August.
- A.555 1893 September - December.
- A.556 1894 January - February. Includes correspondence *re* concert given on 1 February 1894.
Alicia Adelaide Needham gave a piano recital. The concert was organised by Joseph Needham.

Biographical

- A.557 1894 March - April. Includes correspondence from F.A. Fahy *re* her admission to the Irish Literary Society, London.
- A.558 1894 May - June. Includes correspondence *re* arrangements for concert under the auspices of the Irish Literary Society, 5 and 6 July 1894.

The concert was organised by the Needhams. Some of Alicia Adelaide Needham's Irish songs were performed.
- A.559 1894 July - August. Includes correspondence *re* Alicia Adelaide Needham's songs.
- A.560 1894 September - October.
- A.561 1894 November. Includes correspondence *re* songs.
- A.562 1894 December. Includes correspondence *re* songs.
- A.563 1895 January - June. Includes correspondence *re* arrangements for concert, 21 February 1895.
- A.564 1895 July - August. Chiefly *re* songs.
- A.565 1895 September - December, 1896 January. Includes letters of congratulation on success in music examination [?at Oxford], October.
- A.566 1896 March 18-24. Chiefly letters home from M.J. Montgomery (mother of Alicia Adelaide Needham) who was unwell and visiting her daughter in Clapham Park.
- A.567 1896 March 25-31. Chiefly letters home from her mother.

Biographical

- A.568 1896 April 1-6. Chiefly letters home reporting on condition of her mother.
- A.569 1896 April 7-30. Chiefly *re* illness of her mother.
- A.570 1896 May. Chiefly *re* death of her mother.
- A.571 1896 June - December. Includes telegrams of congratulation on passing music examination.
- A.572 1897-1899.
- A.573 1900.
- A.574 1901. Includes letter *re* prize-giving at Stratford Music Festival, London, February, and notification of prize for song 'Innisfail' at Feis Ceoil.
- A.575 'Letters from K.T.H.'. Letters from Katharine Tynan Hinkson, who wrote the words for a number of her songs, 1901-1903, 1906.
- A.576 1902 January - March. Includes invitations to lecture to National Literary Society, Dublin and to Celtic Association 'conversazione'; correspondence *re* prize-giving at Stratford Music Festival, March, and correspondence *re* possible concert before the King and Queen in Dublin.
- A.577 1902 April - August. Includes telegrams of congratulation on her prize-winning song on coronation of Edward VII, and notification of her election as Associate of the Philharmonic Society.
- A.578 1902 September - December. Includes letters *re* dedication of songs by Alicia Adelaide Needham.

Biographical

- A.579 1903 January - February. Includes notifications of election to Royal Academy Musical Union and of Feis Ceoil prize for song 'Servato Fidem'.
- A.580 1903 March - May. Includes correspondence *re* adjudication of song competitions by *The Girl's Realm*, Sunday School Union and *The Gentlewoman*.
- A.581 1903 June - December. Includes letters of thanks for copies of Alicia Adelaide Needham's collection of 'Soldiers' Songs'.
- A.582 1904, 1906. Includes correspondence from Katharine Tynan Hinkson, 1906.
- A.583 1907. Includes letters *re* dinner at the Irish Club, and letters to her father J.W. Montgomery *re* her financial situation.
- A.584 1908. Chiefly letters to her father *re* financial situation.
- A.585 1909. Letters to her father.
- A.586 1910. Letters to her father.
- A.587 1911-1915.
- A.588 1917. Chiefly drafts of letters to Lloyd George, Prime Minister, *re* possibility of civil list pension, and acknowledgements.
- A.589 1920.
- ?1931. Letter of congratulation to her son, possibly on publication of his book *Chemical Embryology* in 1931. The letter also includes Alicia Adelaide Needham's personal reflections.

Biographical

- A.590-A.596 Undated or partially dated. 7 folders.
- A.590 Addressed to 'Miss Montgomery'.
- A.591 Addressed to 'Mrs Needham'.
- A.592 Addressed to 'Del'. Chiefly from 'Bec'.
- A.593 Other letters to Alicia Adelaide Needham. Chiefly from family.
- A.594 Letters from Alicia Adelaide Needham to father and sisters.
- A.595 Letters to 'Eileen' from 'Bec'.
- A.596 Other correspondents.

Miscellaneous

- A.597 Her mother's Bible, inscribed inside front cover by Alicia Adelaide Needham. With a little loose material intercalated.
- A.598 Press-cuttings, greetings cards.
- A.599 Accounts, receipts, bills and other financial papers.
- A.600 Manuscript notes on financial prospects, personal difficulties etc.
- A.601 Miscellaneous memorabilia.

Biographical

John W. Montgomery (maternal grandfather)

- A.612 'My dearest Father Our pedigree etc'. Montgomery's letters so labelled by his daughter Alicia Adelaide Needham. Includes photographic negative of gravestone of his wife.
- A.613 Will, dated 1909.
- A.614-A.616 'A delightful holiday'.
J.W. Montgomery contributed occasional articles under this title to the [?Belfast] *Evening Telegraph* giving geographical and topographical descriptions of parts of Ireland. It was suggested these be collected and published in book form.
- A.614 Letter *re* possible publication; list of chapters.
- A.615, A.616 Drafts of chapters.
- A.615 'The Irish Poor Laws' and 'Round Mourne', paginated 1-9, 30-32.
- A.616 'Lough Sheelin, co. Cavan' and 'Lough Fea, co. Monaghan', paginated 44-51.

Dorothy Mary Moyle Needham (first wife)

Dorothy Mary Moyle (1896-1987) was a fellow researcher in the Cambridge Biochemistry Department. She married Joseph Needham in 1924.

The principal archive of the papers of Dorothy Needham is deposited in the Library of Girton College Cambridge. The papers are catalogued as NCUACS 22/7/90 and NCUACS 37/5/92.

Biographical

- A.617 Typescript draft of tribute to Dorothy Needham by Joseph Needham, written after her death in December 1987.
- Lists of publications to ca.1932.
- Notification of payment from Beit Memorial Fellowship, 1928.
- A.618-A.621 Duplicated typescript and printed material from societies and organisations supported by Dorothy Needham.
- A.618 Permanent International Committee of Mothers, 1957.
- A.619 National Assembly of Women, 1964.
- A.620 British Federation of University Women, 1965, 1972, 1973.
- A.621 Miscellaneous.

Lu Gwei-Djen (second wife)

Lu (1904-1991) was a biochemist. Educated at Ginling College, Nanking, she went to Cambridge as a postgraduate to study under Dorothy Needham in 1937. She became a very close friend of the Needhams and was one of those who inspired Joseph Needham to begin his study of Chinese language and civilisation. After the war Lu served with the UNESCO Section of Natural Sciences in Paris and then in 1957 returned to Cambridge where she was to collaborate with Needham on his multi-volume history *Science and Civilisation in China*. Lu married Needham in 1989.

- A.622 Obituaries, 1991.

Biographical

Elizabeth A. Montgomery Wilson (cousin)

Contents of box-file labelled 'South African War Papers of Eliz. Montgomery Wilson R.R.C. Army Nursing Service'.

Wilson (d.1939) was Matron at Cardiff Infirmary when war broke out in South Africa in 1899. She volunteered for service in March 1900 and was accepted for service in June. She took four other nurses from the Cardiff Infirmary and served as Matron of the South African Field Force 'Langman Hospital'. She was released from service in December following the capture of Pretoria by Field Marshal Lord Roberts. She was awarded the South African War Medal in 1901. Wilson volunteered again in 1901 and 1902 to serve in South Africa but her services were not required.

- A.623 Lists of posts held, ca.1878-1924, and service up to South African War.
Testimonial from Derby Royal Infirmary, April 1897.
Member of General Council of Royal British Nurses' Association, May 1899.
- A.624 Correspondence, April - August 1900. Includes telegrams from Army Nursing Service Reserve *re* service in South Africa.
- A.625 Correspondence, October - December 1900. Includes letter from Lord Roberts thanking her for her service, 7 October.
- A.626-A.631 Memorabilia from South Africa.
- A.626 Mounted photographs of South African campaign: military units, field hospitals etc.
- A.627 Tin box, 6" x 3½", sent to troops in 'South Africa 1900'. Contains three miniature photographs of Wilson (two in nurse's uniform) and coins of the South African Republic.
- A.628 Orders, July, August 1900.

Biographical

Photographs

- A.637 Alicia Adelaide Needham. 3 photographs.
- Alicia Adelaide Needham with son. 2 photographs.
- A.638 Joseph Needham (father). 2 photographs.
- Joseph Needham (father) with son. 1 photograph.
- A.639 Joseph Needham as child. 1 negative, 2 photographs.
- A.640, A.641 Unidentified. 2 folders.

CLUBS, ASSOCIATIONS AND OTHER INTERESTS

- A.642, A.643 Association of Scientific, Technical and Managerial Staffs (ASTMS)
- This Trade Union was formed in 1968 by an amalgamation of the Association of Supervisory Staffs, Executives and Technicians and the Association of Scientific Workers (ASW). Needham had been a member of the ASW.
- A.642 Correspondence and papers 1970-1971, 1975. Includes correspondence *re* Cambridge University branch of ASTMS and formation of Cambridge University Trade Union Committee 1970.
- A.643 Printed material.
- A.644 Association of University Teachers
- Printed and duplicated typescript material, 1960s.

Biographical

- A.645-A.647 Cambridge Cyrene Community
- The Cambridge Cyrene Community (formerly the Simon Community) was an organisation formed in 1965 to provide shelter and support for homeless people in Cambridge.
- A.645 Issues of 'Simon Star', national newsletter of Simon Communities, 1967-1968 (not a complete sequence).
- A.646 Newsletters of Cambridge Simon and Cambridge Cyrene Communities, 1969-1974 (not a complete sequence).
- A.647 Miscellaneous circulars, appeals etc. 1969-1975.
- A.648, A.649 Community Settlement
- The Community Settlement was founded to do voluntary community work in the Westminster and Kensington areas of London.
- Annual reports, appeals 1969-1972. 2 folders.
- A.650 National and Local Government Officers Association (NALGO)
- Printed material 1970.
- A.651 Old Oundelian Club
- Needham had been a pupil at Oundle School 1914-1918.
- Order of service for consecration of Oundle School Memorial Chapel, 1923; appeal, 1972; list of members, 1972.
- A.652 Oxford and Cambridge University Club
- Papers *re* future of Club, 1966-1972.

Biographical

- A.653, A.654 Miscellaneous national and international charitable appeals.
1963-1972 and nd. 2 folders.
- A.655 Miscellaneous Cambridge charitable appeals
1968-1971.

SOCIAL ENGAGEMENTS AND INVITATIONS

Most of the pre-1950 material relates to events at Cambridge, including menus and programmes from college functions and programmes from theatre visits. The later material includes programmes for theatre visits, brochures for exhibitions, etc.

- A.656 1919, 1922.
- A.657 1923.
- A.658 1924.
- A.659 1925.
- A.660 1926, 1927.
- A.661 1928.
- A.662 1929.
- A.663 1930.

Biographical

A.664	1931.
A.665	1932.
A.666	1933.
A.667	1934.
A.668	1935.
A.669	1936.
A.670	1937, 1941, 1950.
A.671	1956-1969.
A.672	1956-1972. <i>Re</i> paintings by Nancy Kuo.
A.673	1970-1972.
A.674	1973.
A.675-A.677	Nd. 3 folders.

Biographical

FINANCIAL

Contents of Needham's folders. Include some financial information relating to Dorothy Needham.

A.678-A.684

'Old income tax file'. 7 folders.

Includes material *re* income from stocks 1933-1937, maintenance of Needham's mother, 1939-1940, estate of Needham's parents and cousin Elizabeth A.M. Wilson, correspondence with Inland Revenue *re* income tax and surtax 1947-1954, etc.

A.685-A.688

'J.N. Accounts'. 4 folders.

Correspondence and papers, 1942-1950, *re* British Council funding for Needham's work in China. Includes lists of expenses, receipts etc.

A.689-A.692

'Unesco Westminster Foreign Bank'. 4 folders.

Correspondence and papers, 1946-1948, *re* salary and expenses while working for UNESCO, and money retained in French bank account 1949-1959.

A.693

Chequebook stubs, 1946-1959.

MISCELLANEOUS

A.694

Sketch of Needham, made at 'Congress of Exp. Biol.'

Newspaper cutting from *Moscow News*, 1 January 1957, with greetings to Joseph and Dorothy Needham from V.A. Engelhardt.

A.695

Manuscript notes; memorabilia.

SECTION B

CAMBRIDGE UNIVERSITY

B.1-B.388

Needham spent his whole academic career at Cambridge. He was an undergraduate at Gonville and Caius College 1918-1922 and from 1922 to 1924 held a Benn Levy Studentship for postgraduate research under F.G. Hopkins. He was University Demonstrator in Biochemistry 1928-1933 and Sir William Dunn Reader in Biochemistry 1933-1966. Needham became a Fellow of Gonville and Caius College in 1924, and served as Master 1966-1976.

In addition to his membership of the Department of Biochemistry Needham was influential from the mid-1930s in the establishment of the history and philosophy of science as an accepted academic discipline in Cambridge University. He served on the History of Science Lectures Committee and its successors the History of Science Committee and the History and Philosophy of Science Committee. In recognition of his pioneering work on the history and civilisation of China Needham was appointed a member of the Faculty Board of Oriental Languages (later Oriental Studies) in 1949.

The material is presented as follows:

B.1-B.260	DEPARTMENT OF BIOCHEMISTRY
B.261-B.297	UNIVERSITY GENERAL AND MISCELLANEOUS
B.298-B.368	HISTORY OF SCIENCE COMMITTEE
B.369-B.376	FACULTY BOARD OF ORIENTAL STUDIES
B.377-B.388	GONVILLE AND CAIUS COLLEGE

Cambridge University

DEPARTMENT OF BIOCHEMISTRY

B.1-B.41	Funding and administration of research
B.42-B.230	Lectures
B.231-B.234	Requests to visit
B.235-B.260	General and miscellaneous

Funding and administration of research

B.1-B.20	Royal Society
B.21-B.30	Rockefeller Foundation
B.31-B.33	Other grants
B.34-B.41	Drugs, equipment etc

Royal Society

B.1-B.19 Metabolism of the developing egg.

Between 1925 and 1943, with a break in 1929 when Needham was in the USA, the Royal Society provided Needham with annual grants for equipment and supplies for research on this subject. The material comprises notifications of the sums awarded, Needham's accounts, invoices and receipts for goods bought with money from the grants, and lists of papers and research carried out for the year of the grant.

B.1 Needham's manuscript list of Royal Society grants 1925-1943.

B.2 1925-1926; 1926-1927.

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- B.3 1927-1928.
- B.4 1929-1930.
- B.5 1930-1931.
- B.6 1931-1932. Includes 'List of papers published since the last report'.
- B.7 1932-1933. Includes 'References to transactions, journals, etc in which results have been printed since the date of the last report' and application for an emergency grant.
- B.8 1933-1934. Includes 'Investigations in progress or projected'.
- B.9, B.10 1934-1935. Includes (at B.9) 'List of [published] papers' and list of main research activities. 2 folders.
- B.11 1935-1936. Includes 'List of papers'.
- B.12, B.13 1936-1937. Includes (at B.12) 'List of papers'. 2 folders.
- B.14 1937-1938. Includes 'List of papers'.
- B.15 1938-1939.
- B.16 'The remarkable Bayger correspondence Laying-season of 1939'. Contents of Needham's envelope so inscribed: correspondence *re* supply of specimens of newts from Poland by J.A. Bayger, May 1939.

.../

Cambridge University

/... Needham imported newts from Poland, rather than Germany, on political grounds. However, on receipt of Bayger's claim for over 540 zlotys in expenses (to be set against the Royal Society grant) W.W. Nowinski, a Pole doing research under Needham in Cambridge, suggested the figure was far too high. Bayger wrote to Needham explaining his expenses and defending his integrity.

B.17 1939-1940.

B.18 1940-1941.

B.19 1941-1942; 1942-1943.

Needham received awards for both these periods but in neither case was able to spend all the grant money and returned the unspent balance to the Royal Society.

B.20 Notice of award of Royal Society grant to F.G. Hopkins from the Messel Fund, 17 November 1938; 'Report to the Royal Society on the grant made to Sir F.G. Hopkins for the work of Dr J. Needham and Mr C.H. Waddington on chemical aspects of organiser phenomena in amphibia (1938-1939)' by Needham.

Rockefeller Foundation

In 1934 the Rockefeller Foundation expressed its intention to fund work in the areas of embryology and genetics. Needham sought support from the Foundation for a research institute to bring together the various aspects of embryology then being studied in Cambridge. However, concern in Cambridge over the number of medical students entering the university (which included some studying in the biochemistry department) led to the plans for the institute being suspended in October 1936. The correspondence and papers document proposals put forward and negotiations arising.

There is also a little material relating to Needham's attempts to find funding at a more modest scale for his own and his colleagues' embryological research, and correspondence and papers from 1940 relating to the Foundation's concern for the future of science in the event of Nazi victory in Europe.

Cambridge University

- B.21-B.30 Correspondence, chiefly with officials of the Rockefeller Foundation, and papers *re* the plans for the institute and grants to Needham and his researchers.
- B.21 1934. Includes 14pp draft letter to W.E. Tisdale, Assistant Director of the Foundation, setting out Needham's thoughts on the possible development of embryology in Cambridge with Rockefeller support. See also E.112.
- B.22 1935 January, February. Includes draft memorandum by D.M. Wrinch, *re* requirements for an institute of embryology in the area of x-ray analysis, and 6pp draft of letter from Needham to Tisdale incorporating points made by Wrinch.
- B.23 1935 March - June. Includes letter to the Secretary General of the Faculties suggesting the vacant Jacksonian Chair of Experimental Philosophy should be filled by a 'crystal physicist', and 4pp typescript 'Concrete memorandum forwarded to Rockefeller Foundation, June 16th 1935'.
- B.24 1935 July - November.
- B.25 1936 January - August. Chiefly *re* support for C.H. Waddington. Also includes 7pp typescript draft of Needham's 'Memorandum to the Vice-Chancellor and the Council of the Senate on the question of the extension of the Biochemical Laboratory'.
- B.26 1936 September - December. Includes final version of Needham's 'Memorandum...' as sent to the Vice-Chancellor, and correspondence and papers *re* possible Rockefeller funding for an extension to the Strangeways Research Laboratory. This was linked to a proposal that Needham and C.H. Waddington's work on embryology might be done at Strangeways.
- B.27 ca.1936. 11pp typescript 'Memorandum on Cambridge work on Organiser Phenomena',
- B.28 1937, 1938. Includes correspondence with F.G. Hopkins *re* attempts to secure funding for research.

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B.29 1940. Correspondence *re* funding of science in Europe.

Early in 1940 W. Weaver of the Rockefeller Foundation wrote to American colleagues asking them to suggest areas of science where Europeans were making the sole or significant progress, and to name individuals of key importance. He passed the results on to J.S. Huxley for information who circulated them to Needham and others.

B.30 1941-1942. Chiefly *re* grants to Needham for work on the shape of protein molecules.

Other grants

B.31 Accounts etc for 'Special grant 1934-5' to C.H. Waddington.

B.32 Correspondence *re* unsuccessful applications for funding 1938.

Includes correspondence with the Department of Scientific and Industrial Research, Sir Halley Stewart Trust, Leverhulme Research Fellowships Committee and the Josiah Macy Jr Foundation,

B.33 Draft application for research work on organiser phenomena. *ca.*1939.

Drugs, equipment etc

Correspondence and papers, 1922-1942.

B.34 1922. Chemicals; universal Condenser; micro-dissection apparatus; inositol.

B.35 1923 June, July, October. Rubber; laboratory rats.

B.36 1923 November, December. Rubber; mistletoe.

B.37 1924. Chemicals; pyrex glassware.

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- B.38 1925. Micro-camera; colour reproduction.
- B.39 1926-1930, nd. Fish etc from Scottish Marine Biological Association, Millport; chemicals; micro-dissection apparatus; other scientific instruments.
- B.40 Printed sales material for optical equipment, 1920s.
- B.41 1937, 1942. Importation of insects; scientific instruments.

Lectures

The papers in this section were found in Needham's folders. The material was principally used by Needham for updating his lectures on biochemistry to postgraduates.

The folders bore Needham's inscriptions listing the subjects covered by the material in the folders and usually an abbreviation referring to the course for which the material was pertinent. The abbreviations 'CB', 'CP' and 'CPB' refer to courses in comparative biochemistry, 'CE' or similar refers to a course in Chemical Embryology, 'IRA' to biochemical aspects of Integration, Regulation and Adaptation, and 'CE/IRA' to a combined course in the two given in the mid-1960s. These folders were in some cases also numbered. Some of the material was used in more than one course. A number of folders are very heavily inscribed and therefore have themselves also been preserved. Some of the material was also used by Needham in the preparation of his 1955 review article in the *Annual Review of Physiology* 17 (see F.353, F.354) - many folders bear the inscription 'ARP 54/55' or similar.

The material is chiefly bibliographical references, notes on the literature and offprints. Many of the offprints have been annotated by Needham, some extensively, and some offprints have manuscript notes intercalated. The bulk of the material dates from the 1950s and 1960s although there is older material in some of the folders. There are also syllabuses and instructions for practical work.

The catalogue entries give the abbreviation (where possible) and the main titles found on the folders.

B.42-B.116 Comparative Biochemistry

B.117-B.145 Chemical Embryology

.../

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/...	B.146-B.174	(Biochemical aspects of) Integration, Regulation and Adaptation
	B.175-B.193	Chemical Embryology/Integration, Regulation and Adaptation
	B.194-B.229	Other folders
	B.230	Crystallography

Comparative Biochemistry

B.42	'CP/Practical etc (old)'. Includes material <i>re</i> teaching comparative biochemistry 1934; correspondence from E.J. Allen, Director of Marine Biological Association Plymouth Laboratory, <i>re</i> supply of specimens, February 1935; timetables for Part II lectures Michaelmas term 1941 and Lent term 1942; list of 'Part II course criticisms'; manuscript notes.
B.43-B.47	'General & introductory CP/1 biochemistry and evolution'.
B.43	'Biochemistry Post-Graduate course' on comparative biochemistry, 6pp typescript, 1 March 1954; manuscript notes on course and students 1957-1960.
B.44	Manuscript and typescript notes.
B.45	'Fifties new discoveries "sensations" ': chiefly press-cuttings, offprints <i>re</i> discovery of living coelacanth.
B.46	Offprints by M. Florkin.
B.47	Offprints by others.
B.48, B.49	'Comp. Biochem. of Vision CP/1'. Offprints of G. Wald. 2 folders.

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- B.50-B.52 'Comp. Biochem of Vision Retinene etc CP/1'.
- B.50 Manuscript notes.
- B.51 Offprints by Wald.
- B.52 Offprints by others.
- B.53 'Phosphagens CP/1'. Manuscript notes; offprints.
- B.54 'CP/1 phylogenetic phenomena'. Manuscript notes; offprints.
- B.55, B.56 'CP/1 Offprints'. 2 folders.
- B.57, B.58 'Chem. ecol. CP/1 or 2'.
- B.57 Manuscript notes; offprints.
- B.58 Offprints by G.E. Hutchinson.
- B.59 'Accumulators Mg, Al, As, Sr esp V, Ni CP/2'. Manuscript notes; offprints.
- B.60-B.63 'Oceanography & Limnology CP/2'. Manuscript notes; offprints. 4 folders.
- B.64, B.65 'Kidney excrn papers CP/3'.
- B.64 Manuscript notes; offprints by H.W. Smith.

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- B.65 Offprints by others.
- B.66-B.69 'Osmoregulin papers CP/3'.
- B.66 Manuscript and typescript draft ?for lecture on 'int. & ext. medium habita[?] water-reins', includes one page dated 1944; manuscript graphs, notes.
- B.67 Offprints by J.A. Ramsay.
- B.68 Offprints by V.B. Wigglesworth.
- B.69 Offprints by others.
- B.70 'Osmoregn 1 CP/'. Manuscript notes.
- B.71-B.73 'Osmoregn 2 CP/3'.
- B.71 Manuscript notes and tables.
- B.72 Offprints by J.D. Robertson.
- B.73 Offprints by others.
- B.74-B.76 'Osmoregn 3 & resp[iratio]n'.
- B.74 Manuscript notes.

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- B.75 Offprints by J.R. Robinson.
- B.76 Offprints by others.
- B.77-B.79 'Transition water-land CP/3'.
- B.77 Manuscript notes.
- B.78 Offprints by P.F. Scholander.
- B.79 Offprints by others.
- B.80-B.82 'Transition water-land metabolic rate adaptation'. Manuscript notes; offprints. 3 folders.
- B.83 'Animal luminescence CP/'. Manuscript notes; offprints.
- B.84 'Inorg. metab. CP/'. Manuscript notes; offprints.
- B.85, B.86 'Insect waxes & water-loss CP/'.
- B.85 Manuscript notes; offprints.
- B.86 Offprints by V.B. Wigglesworth.
- B.87 'Lipins, sterols & waxes Fats CP/'. Letter from N.W. Pirie *re* evolution and fat composition; manuscript notes; offprints.
- B.88, B.89 'Lectures on sterols and related substances'.

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- B.88 Manuscript lecture notes for 'Advanced class'.
- B.89 Manuscript notes on 'Metabolic rate of hydrocarbons'; duplicated typescript formulae and manuscript list of hydrocarbons.
- B.90-B.93 'Nitrogen bases CP/'.
- B.90-B.92 Typescript lecture notes and tables on trimethylamine oxide, choline, betaines and other compounds, paginated 1-102. 3 folders.
- B.93 Manuscript notes; offprints.
- B.94-B.97 'Nitrogen excretion CP/ mem Some notes in CE prot excr. file'.
- B.94 27pp typescript notes + figures and tables (?for slides).
- B.95 Manuscript notes on nitrogen excretion in various classes of animals.
- B.96, B.97 Offprints. 2 folders.
- B.98, B.99 'Nitrogen metabolism enzymes etc CP/'.
- B.98 Manuscript notes.
- B.99 Offprints.
- B.100 'pH reguln & anaerobiosis CP/'. Manuscript notes.
- B.101 'Pigments (other than anthraquinone) (may follow on from sterols etc) CP/'. Manuscript notes; offprints.

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- B.102 'Pigments, anthraquinone (for following up quinons and tanning)'. Manuscript notes, offprints.
- B.103 'Pigments. lipochromes carotenoids'. Typescript notes on carotenoids, paginated 12-21, + figures; manuscript notes; offprints.
- B.104 'Respn & Resp. pigments' CP/.
- B.105 'Carbohydrate metabolism CB/'. Manuscript notes; offprint.
- B.106, B.107 'CPB/8 nutrition general digestion'. Manuscript notes and offprints (chiefly by D.A. Waterhouse and R.F. Powing). 2 folders.
- B.108, B.109 'CPB/8 Symbionts in reln to digestive enzymes'. Manuscript notes; offprints. 2 folders.
- B.110-B.112 'CPB/8 Symbionts in relation to synthesis of essential food substances'.
- B.110 Issue of *Research Today* 3 (1946) on 'The chemistry of B vitamins' with manuscript notes and offprints intercalated.
- B.111 Offprints by G. Fraenkel.
- B.112 Offprints by others.
- B.113-B.116 'Comp. Bioch Practical'.
- B.113 Schedule of work for advanced class, 1933 and 1934; correspondence 1928-1934, chiefly *re* specimens and supply of fish etc; printed information *re* aquaria; list of demonstrations for comparative biochemistry; course description for experimental biology; duplicated typescript instruction sheets for biochemistry practical work.

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B.114-B.116 Manuscript notes; duplicated typescript instruction sheets. 3 folders.

Chemical Embryology

B.117, B.118 'Chemical embryology O.S. CE'.

B.117 Syllabuses and schedules of Needham's lectures 1928 (for course titled 'Chemical aspects of growth and differentiation. (Metazoa)'), 1933-1938, 1953, 1956, 1961, 1963 and nd.

B.118 Manuscript notes; Needham's envelope containing 'Pictures I want lantern slides of'; booklet of biological and anatomical natural history models sent to Needham 1934.

B.119 'Absorption (role of membranes yolk structure etc) CE/1'. Manuscript notes; offprints.

B.120 'Egg Chem. Constit. Normal developmt CE/1'. Manuscript notes; offprints.

B.121 'Constit & Cleidocity CE/1'. Letter from M. Lafon, 1948, *re* work on chemical embryology; manuscript notes.

B.122 'Water & pH relations CE/1'. Manuscript notes; offprints; figures.

B.123 'Egg Carb Metab CE/2'. Duplicated typescript lists of dehydrogenases, the glycolysis system, flavoproteins; manuscript notes.

B.124 'Egg Fats, Lipins, Steroids Metab. CE/2'. Manuscript notes; offprints; figures.

B.125 'Egg P, Ca Metab CE/2'. Manuscript notes; offprints.

Cambridge University

- B.126 'Carbo. glycogen Claude Bernard onwards CE/2'. Manuscript notes; figures.
- B.127 'Horm - blood-sugar - especially relating to carbo-metab. CE/2'. Manuscript notes; offprint.
- B.128 'Vit CE/2'. Manuscript notes; offprint.
- B.129 'Energetics CE/3'. Manuscript notes.
- B.130 'Egg catabolism Respn Metab. rate CE/3, 4'. Manuscript notes; offprints.
- B.131 'Chem diffn of special tissues CE/4'. Material *re* Ph.D. examination (on the biochemistry of muscle development) 1951; manuscript notes; offprints.
- B.132 'Egg Growth differentiation determination heteranxesis CE/4'. Manuscript notes; figures; offprints, with letters *re* offprints 1955 and 1965.
- B.133 'Egg Prot[ein] Metab Anabolic CE/4'. Manuscript notes; offprints.
- B.134 'Prot. Metab. Anabolic [...] CE/4'. Manuscript notes; offprint.
- B.135 'Prot. Metab. catabolic N-excm etc CE/4'. Manuscript notes; offprints.
- B.136 'Spiegelman [...] CE/4'. Manuscript and typescript notes on work by S. Spiegelman; offprint by Spiegelman.
- B.137 'Feather formation CE/5'. Manuscript notes 1940s.

Cambridge University

- B.138, B.139 'Placenta CE/6'.
- B.138 Letter from A. St G. Huggett, 21 February 1931, with his comments on the proofs of Needham's section on 'Biochemistry of the placental barrier' in *Chemical Embryology*, with copy of the section; correspondence with A.H. Gordon *re* amino-acid levels in the amniotic and allantoic fluids, 1961.
- B.139 Manuscript notes; offprints.
- B.140-B.145 'Nuclear - cytoplasmic relations'.
- Needham's folders so inscribed. These folders were also all inscribed 'transferred to CE', and with titles and other notes reproduced in the catalogue entries.
- B.140 'Classical work DNA & RNA invertebrate (holoblastic equal) ech[inoderms]. moll[uscs].' Manuscript notes; offprints.
- B.141 'DNA & RNA amphib unequal holoblastic'. Manuscript notes; offprints.
- B.142 'DNA RNA synθ dg. emb. devel. Chick (classical chem. NPR) (meroblastic)'. Manuscript notes; figures.
- B.143 'NPR mamm. tissues & tiss-cults (relns of other entities to DNA; Davidson et suis)'. Manuscript notes; offprints by J.N. Davidson.
- B.144 'Developmental block [...]'. Manuscript notes; offprints.
- B.145 'Metab. of nucleate and non-nucleate fragments of cells'. Manuscript notes; offprints by J. Brachet.

Cambridge University

(Biochemical aspects of) Integration, Regulation and Adaptation

- B.146-B.149 '[...] Metabolic Integration, Regulation & Adaptation in Multicellular organisms standing orders IRA/1'.
- B.146 Needham's manuscript notes of lectures on 'Physico-Chemical Cytology' given by R.A. Peters, dated 1921.
- B.147 Manuscript and typescript summaries, schedules etc for courses 1950-1952. Includes exchange with F.G. Young *re* length of Needham's course.
- B.148 Manuscript and typescript summaries, schedules etc for courses 1953-1957 and nd.
- B.149 'Recent advances in the biochemistry of organiser phenomena in vertebrate embryology', Prague, 1957.

Lists of topics (in English and Czech) and slides.
- B.150 'General & theoretical IRA/1'. Manuscript and typescript notes, some relating to history of study in the area.
- B.151 'Analysis of cell structure and function [...] IRA/1'. Manuscript notes.
- B.152 'Subcellular morphology and biochemistry IRA/1'. Manuscript notes; offprint; duplicated sheets for Part 1B biochemistry course.
- B.153 'Histochem (sensu stricto) IRA/1 or 2'. Manuscript notes.
- B.154 'Claude etc [...] IRA/2'. Manuscript notes on pioneering work of A. Claude.

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- B.155 'Micro-manipulation microdissection & microinjection IRA/2'. Manuscript notes; duplicated typescript papers on work of J. Comandon and P. De Fonbrune.
- B.156 'Mitochondria Golgi bodies Cleavage asters IRA/2'. Manuscript notes; offprints.
- B.157 'Nuclear-cytoplasmic relations [...] IRA/2'. Manuscript notes; offprints.
- B.158 'Ultramicrochemical techniques in general Cylinder technique IRA/2'. Manuscript notes; offprint.
- B.159 'Ultramicrorespirometry (mainly protozoa) IRA/2 [and CE/5]'. Manuscript notes; offprint.
- B.160 'Acetabularia biochemical work Brachet et suis Hämmerling epigoni IRA/3'. Manuscript notes; offprint.
- B.161 'Amp prim. org[anise]r biochem. mech. of induction contd IRA/3'. Manuscript notes; offprints.
- B.162-B.164 'Biochem & morphogenesis lects Prim & Sec Organisers IRA/3'.
- B.162 Duplicated typescript list of lectures and Needham's manuscript notes on lectures by C.P. Raven and J. Pasteels at 'Edinburgh Entwicklungsmechanik Symposium March 1951' (see also H.83); manuscript notes (in French) for '3 lectures at Lyon April 1951' (see also H.84); 'Suggested breakdown of 4 lectures on morphogenesis and differentiation...', 21 December 1961.
- B.163 Manuscript notes; offprints; etc.
- B.164 Offprints by Needham.

Cambridge University

- B.165 'Enzyme-profiles nucleus & cytoplasm IRA/3'. Manuscript notes; offprint.
- B.166 'Subcellular morphol. & biochem. [...] IRA/3'. Manuscript notes, including notes on lecture by de Duve 5 March 1954.
- B.167-B.169 'Nuclear-cytoplasmic relations'.
Needham's folders so inscribed. These folders were also inscribed 'IRA/4' and with titles reproduced in the catalogue entries and other notes.
- B.167, B.168 'General picture DNA RNA functions [...]'.
B.167 Manuscript notes; duplicated typescript reference lists for lectures on biosynthesis in micro-organisms.
- B.168 Offprints.
- B.169 'Isolation and transplantation [...]'. Manuscript notes; offprints.
- B.170 'Parthenogenesis Einsele-Shaver ribonuclease as anti-mitotic'. Manuscript notes; offprints.
- B.171 'Secondary conductors IRA/5-7'. Manuscript notes; offprint.
- B.172 'Toivonen [...] IRA/5-7'. Manuscript notes.
- B.173 'Anisometric molecules Flow birefringence and anomalous viscosity [...] IRA 5'. Manuscript notes; offprints.
- B.174 'Plant inductors hormones IRA/8'. Manuscript notes; offprints; request from American Society of Plant Physiologists to comment on recommendations for terminology of chemical regulators in plants, 1952.

Cambridge University

Chemical Embryology/Integration, Regulation and Adaptation

These folders were found between two markers indicating the 'Beginning' and the 'End of combined CE/IRA 63 65'.

- B.175 'CE/IRA'. Manuscript outline of course October 1965.
- 'Concluding ideas'. Manuscript 'table for conclusion of whole IRA course'.
- B.176 'before Am ϕ prim org[anise]r [...] IRA/2'. Manuscript notes.
- B.177 'Amphib primary organiser RNA proteins fractionation CE/IRA 65'. Manuscript notes, some from 'JEEM conference' April 1957.
- B.178 'Amphib primary organiser RNA proteins and transmission CE/IRA 65'. Manuscript notes; offprints.
- B.179 'Anisometric molecules fibrillar protoplasmic structure [...] IRA/7'. Manuscript notes; offprints.
- B.180 'Anisometric molecules other fibrillar structures [...] IRA/5'. Manuscript notes; offprints.
- B.181 'Dissociability of fundamental processes IRA CE/5'. Manuscript notes; proofs of article by Needham 'Dissociability of fundamental processes', *Biological Reviews* 8 (1933); offprints; figures.
- B.182 'Ech. development double-gradient system [...]'. Manuscript notes.
- B.183 'Hormones Inverts in gen. Crust IRA/10'. Manuscript notes; offprints.

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- B.184-B.186 'Insect metamorphosis' and 'Biochem. of scaffolding structures (larval and pupal life)'.
Needham's folders so inscribed. These folders were also inscribed with titles, which are reproduced in the catalogue entries, and other notes.
- B.184 'Biochem & metab. during CE/6'. Manuscript notes; duplicated typescript sheets; offprints.
- B.185 'Hormones reviews and ideas IRA/10 & CE/8'. Manuscript notes; offprints.
- B.186 'Hormones papers IRA/10 & CE/8'. Manuscript notes; offprints.
- B.187 '[...] Lithium story [...]'. Manuscript notes.
- B.188 'Mitosis (birefringence [...]) IRA/7'. Manuscript notes; offprints.
- B.189 'Mitosis mitotic inhibitors [...] IRA/ temporarily omitted'. Manuscript notes; offprints.
- B.190 'Mosaic egg biochem. Intracellular polar lobe inductions'. Manuscript notes; offprint.
- B.191 Mosaic egg morphogen [...] IRA/2'. Manuscript notes; offprints.
- B.192 'Niu papers CE/IRA 65'. Manuscript notes on work by M. C. Niu.
- B.193 'Structure-proteins [...] IRA/5 & CE 4'. manuscript notes; offprint.

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Other folders

These folders were found with those listed above but are not marked with a course abbreviation. In many cases, however, the contents relate directly to topics covered in Needham's biochemistry courses.

- B.194 'Acquired tolerance Ontogenetics of antibody forms [...]'. Correspondence and papers *re* Ph.D. examination (on the effects of embryonic environment on post-hatching development of chicks) 1956; offprints.
- B.195 'Alk. phosphatase story from utilisation of Ca of shell in bone-formation'. Manuscript notes; offprints.
- B.196 'Amphib. metamorph. omitted 1956'. Manuscript notes.
- B.197, B.198 'Analogue - molecule specific inhibitns and radiomimetic cpds etc'.
- B.197 Manuscript notes, including notes ?on lectures by R.A. Peters, 16 February 1955 and D.W. Woolley, 2 November 1955.
- B.198 Offprints.
- B.199 'Cancer fundamentals'. Manuscript notes; offprint.
- B.200 'Chondrogenetic iriduction [...]'. Manuscript notes.
- B.201 'CPF succession of energy-sources and reln Aq. Terr.'. Manuscript notes.
- B.202 'Fertilisation phenomena and cell cohesion in general [...]'. Manuscript notes; offprints.
- B.203 'Fructose story [...]'. Manuscript notes; offprint.

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- B.204 'Gastrular metab'. Manuscript notes.
- B.205 'h & t [head and tail organisers] leading to mesodermal inductor'. Manuscript notes; offprints, chiefly by Y.K. Okada and T. Hama.
- B.206-B.212 'Invert[ebate]s'.
Needham's folders so inscribed. These folders were also inscribed with titles, which are reproduced in the catalogue entries, and other notes.
- B.206, B.207 'Blood Chem. Ammonaemia Aminoacidaemia Ureaemia etc'. Offprints by M. Florkin *et al.* 2 folders.
- B.208-B.212 'Blood circn & coagn [...]'. Manuscript notes; offprints. 5 folders.
- B.213 'Nephic excretion etc and its evolution'. Manuscript notes; offprints.
- B.214, B.215 'Muscle and electric organs insect mitochondria etc'. Offprints. 2 folders.
- B.216 '[...] Non-phosph[orylating] glycolysis story'. Manuscript notes.
- B.217 'Organ disaggregations to component g/layers [...]'. Manuscript notes; offprints.
- B.218 'Plant tissue culture & the Crown-Gall problem'. Manuscript notes; photographs of 'Nétien & collabs Lyon tissue cultures of cambium of carrot', April 1951; offprints.
- B.219 'Porphyrin Hb synthesis in emb'. Manuscript notes; offprints.
- B.220 'Regen [...]'. Manuscript notes.

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- B.221 'Serol [...]'. Manuscript notes.
- B.222 'Slime moulds combination and disaggregation in each life-history'. Manuscript notes.
- B.223 'Tartar Weisz etc on Stentor'. Offprints.
- B.224 'Tissue affinities & repulsions (germ layers) Tissue movements Biochem & Metab'. Manuscript notes, including notes on ?lecture by J.K.F. Holtfreter, Oxford 16 April 1940.
- B.225 'Tissue disaggregations [...]'. Manuscript notes; offprints.
- B.226 'Tissue disaggregations [...] & recombinations [...]'. Manuscript notes.
- B.227 'Tissue & cell movements Teratomata'. Manuscript notes; offprint.
- B.228 'Tracheal respiration'. Manuscript notes; offprints.
- B.229 'Vectorial determination and detmn of spatial axes [...]'. Letter from C. Robinow enclosing photographs of micro-organisms in myelin structure, 20 June 1941; manuscript notes; offprint.

Crystallography

- B.230 Typescript 'Note on the proposed content of the new 1st-year course...Elementary Physical and Chemical Crystallography'. Nd.

Cambridge University

Requests to visit

B.231 1934-1936.

B.232 1938-1949.

B.233 1954-1963.

B.234 1964-1973.

General and miscellaneous

B.235 Papers *re* Report of the Syndicate on the Medical Courses and Examination of the University, June 1932.

The Report proposed changes to the medical courses offered at Cambridge, one of which involved transferring biochemistry from the Natural Sciences Tripos to a new Medical Sciences Tripos. Needham spoke for the biochemistry department in objecting to this proposal on the grounds that it would split the department and harm biochemistry's status as a pure science.

B.236 Correspondence and papers, 1934, *re* career destinations of graduates of the Cambridge biochemistry department and employment options for biochemists.

B.237-B.251 Research in wartime, 1938-1942

In 1938 the Association of Scientific Workers (ASW) stressed the need for an organisation to utilise effectively science in the country's defence in wartime. On the outbreak of war it again urged the need for the efficient use of scientists. The Cambridge branch of the ASW urged the authorities of university laboratories to draw up schemes for possible wartime research for scientists working in those laboratories and submit them to the government. Needham was involved in drawing up the scheme for workers in the biochemistry laboratory.

.../

Cambridge University

- /...
- Found with this material and kept with it are correspondence and papers relating to the Biochemistry Subcommittee of the Advisory Research Council of the Chemical Society and the Biology War Committee.
- B.237 Papers of the Association of Scientific Workers. Includes rough manuscript draft by Needham of resolutions of the Cambridge branch.
- B.238 'Biochemical Laboratory, Cambridge - Work which could be undertaken in time of war', 4pp typescript with manuscript annotation, November 1938.
- B.239 Notice of meeting in Strangeways Laboratory, 19 September 1939, 'To discuss the various [research] problems suggested to decide which shall be immediately attacked [...]', with annotated list of 'Investigations suggested'; correspondence from colleagues *re* war work; manuscript notes ?from meeting.
- B.240-B.243 'Memorandum on present work and suggested problems. Cambridge Biochemical Department.'
- Needham had asked all workers in the laboratory to suggest ways in which their current work could be utilised in the war effort or how otherwise their knowledge and skills might be used. He assembled their replies in the memorandum.
- B.240-B.242 Typescript and manuscript draft. 3 folders.
- This comprises the original or retyped replies of members of the department and other workers in the laboratory.
- B.243 Typescript draft, 8pp with extensive manuscript correction and annotation; 6pp duplicated typescript.
- B.244-B.247 Biochemistry Subcommittee of the Advisory Research Council of the Chemical Society
- In October 1939 Needham met with R.A. Peters and J.H. Quastel to discuss coordination of wartime work in biochemistry on a national scale. It was felt this should be done through a specially constituted subcommittee. The subcommittee was suspended in 1941 as its role had largely been subsumed within that of the Biology War Committee (B.248-B.251).

Cambridge University

- B.244 Correspondence with colleagues *re* proposed subcommittee, October - November 1939; manuscript notes; miscellaneous material found therewith.
- B.245 Papers for first meeting of the subcommittee, 24 November 1939. Some papers are annotated by Needham.
- B.246 Correspondence arising from first meeting; agenda and papers for second meeting, 17 January 1940.
- B.247 Correspondence and papers, January 1940 - November 1941.

Includes letter, 17 February 1940, *re* flavouring properties of monosodium glutamate, summarised report of research workers 31 May 1940 and minutes of final meeting, 29 October 1940.
- B.248-B.251 **Biology War Committee**

This was formed in 1941 as the Biological War Committee by representatives from the Department of Scientific and Industrial Research, Medical Research Council and Agricultural Research Council being joined by representatives of learned societies and academics. The committee met to channel information and ideas for research between government and biological scientists and to prepare reports on 'any aspect of the War which is essentially biological or which has biological implications'.
- B.248 Papers of first meeting of committee, 30 October 1941. Includes introductory statement on origin of the committee.
- B.249 Papers of meetings, 4 December 1941 and 5 February 1942.
- B.250 Papers of meetings, 2 April and 18 June 1942.
- B.251 Papers of meeting, 17 September 1942.

Cambridge University

- B.252 Correspondence with A.C. Chibnall *re* future of department of biochemistry, 1943-1946.
- Chibnall succeeded F.G. Hopkins in the Sir William Dunn Chair of Biochemistry, Cambridge in 1943 (see C.21).
- Includes note on 'Post-war needs of the Department of Biochemistry' by Chibnall, 10 January 1944 and first draft of Needham's March 1944 letter to Chibnall *re* the post-war organisation of the biochemistry department, Needham's own position within it and his plans for future work (see also C.24).
- B.253 Animal experimentation licence 1942-1947.
- B.254 Exchange with F.G. Young *re* future direction of Needham's work and his existing and coming commitments, September 1949.
- Young succeeded A.C. Chibnall in the Sir William Dunn Chair of Biochemistry, Cambridge following Chibnall's resignation in September 1949.
- B.255 'Hopkins reprint collection'. Contents of Needham's folder so inscribed: correspondence and papers *re* housing F.G. Hopkins's offprint collection in the biochemistry department, 1950.
- B.256 Correspondence, October 1953 - June 1954 *re* visit to Marine Biological Association Plymouth Laboratory.
- Needham visited the Laboratory in June 1954 with two graduate students to initiate a scheme to give young biochemical researchers with a physico-chemical training experience of marine biological work.
- B.257, B.258 Papers *re* First Report to the General Board of the Committee appointed to review the Natural Sciences Tripos, 1961-1962. 2 folders.
- The report of the Committee recommended changes in courses, particularly those offered in Part I. The papers reflect the reactions of the Department of Biochemistry and Faculty Boards of Biology to the report.

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- B.259 Duplicated typescript papers 'Notes on the means of entry to the University of Cambridge with the intention to study biochemistry' and 'Notes on the subjects which may be studied at school as preparation for entry to University course in biochemistry', 1963.
- B.260 6pp duplicated typescript draft account of the Department 1914-1963 by F.G. Young, sent to Needham for comment 17 September 1963. With Needham's manuscript corrections.

UNIVERSITY GENERAL AND MISCELLANEOUS

- B.261-B.263 Correspondence and papers *re* car parking, 1932-1934.
- Needham and other members of scientific laboratories requested that more car parking spaces should be provided in the area to the south of Downing Street. In 1934 after representations had been made, a Syndicate on Accommodation for Motor Vehicles was established and it presented its recommendations in May. Needham served on the syndicate.
- B.261 1932, 1933.
- B.262 1934. Papers for meetings of the Syndicate on Accommodation for Motor Vehicles; letter from D. Keilin arising from its recommendations, May.
- B.263 Manuscript notes etc.
- B.264 Note on 'Student's Inter-Faculty Co-ordinating Committee', 3pp typescript, ca.1938; papers *re* memorandum on teamwork by Ph.D. candidates, 1941.
- B.265, B.266 Papers *re* election of Chancellor of Cambridge University 1950. 2 folders.
- On the death of Field Marshal Smuts, two candidates were put forward for the Chancellorship: Lord Tedder and Pandit Nehru, Prime Minister of India. Needham supported Nehru. However, Nehru was not consulted before his nomination and subsequently indicated that he would decline to accept it. The prospect of a contest caused considerable media interest and much of the material is newspaper cuttings.

Cambridge University

- B.267-B.271 Papers *re* Report of General Board on the Development of the University 1956-1962.
- The Report initiated debate about the proportion of science and technology courses and students to those of the humanities courses and students within the university. Needham argued for the introduction of a humanities component into science courses and proposed a 'Principles of Science' Tripos.
- B.267 Senate House discussions on the Report 31 January and 1 May 1956.
- Needham's notes on proceedings and 5pp typescript 'remarks' delivered at the second discussion.
- B.268 Needham's manuscript notes on Senate House discussion 5 November 1957; manuscript and typescript drafts of 'The proposed "Principles of Science Tripos" ' by Needham, published in *Cambridge Review*, 16 November 1957, with copy of article.
- B.269 Letter to Needham *re* General Board committee to consider combined arts and science courses, 23 January 1959; 'Report of the General Board on course combining arts and science', 8 June 1960.
- The report recommended the establishment of Principles of Science Tripos.
- B.270 Papers of Department of Biochemistry staff meeting 7 March 1962 to discuss courses in principles of science.
- B.271 Printed background material.
- B.272 Papers for Department of Biochemistry staff meeting to discuss changes to Natural Sciences Tripos, 15 February 1956, annotated by Needham; papers *re* possible extension to the Department funded by the Wellcome Trust, May 1956.
- B.273, B.274 Papers *re* abolition of Latin as an entry requirement for Cambridge University, 1959-1960.
- Needham was opposed to ending knowledge of a classical language as a compulsory entry requirement.

Cambridge University

- B.273 Drafts of memoranda by Needham to the Vice-Chancellor setting out his views; manuscript notes.
- B.274 Printed material etc.
- B.275 Manuscript notes on 'Senate House Sociology Discussion 26/1/60'.
- B.276 Papers, March - May 1961, *re* discussion meetings on possible widening of the history course to include more non-European history.
- B.277 Correspondence with H. Lazard *re* Lazard Foundation, 1962-1963.
- B.278 Miscellaneous papers 1962-1964.
- B.279-B.284 'University teaching, readerships etc'. Contents of Needham's folders so inscribed: correspondence and papers *re* reaction to Report to the General Board of the Committee on Teaching, 1964.

The Report, issued on 1 May, recommended the establishment of minimum teaching requirements for Professors and Readers. Needham opposed this and drafted a memorandum for presentation at the discussion of the Report at Senate House on 9 June.
- B.279 Report to the General Board of the Committee on Teaching 1 May 1964, with Needham's manuscript notes intercalated.
- B.280 Drafts of Needham's memorandum setting out his views on the Report, with manuscript notes on the comments of colleagues to whom Needham had sent drafts.
- B.281 Manuscript notes on discussion of Report by Association of University Teachers, 2 June, and manuscript notes and printed reports of discussion at Senate House, 9 June.

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- B.282 14pp duplicated typescript 'Summary of views of Colleges on main recommendations affecting them in the report [...]'.
B.283, B.284 Miscellaneous background material: manuscript notes, lists of Professors etc. 2 folders
B.285-B.288 Correspondence and papers *re* reaction to reports to the Council of Senate on the administrative organisation of the University, 1967-1968.
Needham had strong reservations about certain aspects of the reports, which he recorded in a memorandum.
B.285 Needham's annotated copies of Report to the Council of Senate on the administrative organization of the University, 13 October 1967 and of comments of the Faculty Board of Oriental Studies on the Report, 13 November 1967.
B.286 Manuscript and typescript drafts of Needham's memorandum for the Senate House discussion of the Report, 28 November.
Needham was unable to present the memorandum in person and intended it to be given by a colleague. In the event the memorandum was not read and therefore could not be incorporated in the published discussions. However, it was widely circulated and received support.
B.287 Correspondence from colleagues who had received copies of Needham's memorandum; marked copy of published discussion; fly-sheets for *placet* and *non-placet*.
B.288 First report of the Council of Senate on the administrative organisation of the University, 7 June 1968.
This revised the report of 13 October.
Annotated copy; typescript of Needham's remarks during the discussion; correspondence *re* fly-sheet.
B.289 Manuscript notes on 'UCR discussion', 7 May 1968, *re* proposal to close the University Combination Room in the Old Schools building.

Cambridge University

- B.290-B.295 Development of west Cambridge.
- From the mid-1960s it became clear that the University would have to expand in order to accommodate the needs of the University's science departments. The 1965 Report to the General Board of the Committee of the Board on the long-term needs of scientific departments concluded redevelopment of city centre sites would be insufficient and recommended the relocation of scientific departments to west Cambridge. The University accepted the recommendation.
- In November 1969, however, land nearer the centre of Cambridge became available when Jesus College decided to sell its rifle range and offered the University the opportunity to buy it. The site was mooted for the new Cavendish laboratory.
- The material relates to the developments in west Cambridge and to associated moves to sell off certain central city sites for redevelopment.
- B.290 Report to the General Board of the Committee of the Board on the long-term needs of scientific departments, 8 December 1965.
- B.291 Opposition to building Turbomachinery Laboratory on Madingley Road, August 1969.
- B.292 Discussion of west Cambridge development in Senate House, 25 November 1969. Includes typescript drafts of Needham's and B.M. Shaffer's memoranda opposing the development.
- B.293 Papers for meeting of Cambridge Colleges' Committee, 23 May 1970.
- The meeting was principally concerned with the possible development of the rifle range site.
- B.294 Further correspondence and papers *re* rifle range site, May 1970.
- B.295 Correspondence and papers *re* Lion's Yard development, June-November 1970.
- The University planned to sell Lion's Yard to the City Council for the construction of a multi-storey carpark. Needham opposed this.

Cambridge University

- B.296 Correspondence *re* honorary degrees 1969-1971.
- B.297 Correspondence *re* borrowing periodicals from the university library, January 1972; letter *re* nursery and creche facilities in the university, 1976.

HISTORY OF SCIENCE COMMITTEE

In 1936, at Needham's suggestion, a committee was established, supported by the Faculty Boards of Biology, Physics and Chemistry, to arrange courses of lectures in the history of science. Needham was the first Chairman and Secretary of this History of Science Lectures Committee. The first history of science lectures were delivered in Michaelmas Term 1936. Lecturers included some of the leading scientists of the day - including Barcroft, W.H. Bragg, Eddington, Hopkins and Rutherford - and the collected lectures were published by Cambridge University Press. In early 1939 the Committee was suspended but it was re-formed in May 1942, with Needham again as Chairman (succeeded by H. Butterfield on Needham's departure for China). In 1944, following the presentation of R.S. Whipple's collection of historical scientific instruments and books to the University, it was proposed to create a university museum for the history of science to be followed in due course by a department of the history of science.

The establishment of a History of Science Committee was approved by the University in November 1945 and the reorganised committee began work in March 1947. The Committee continued to arrange lectures as before but also planned for the establishment of teaching posts in the history of science and the creation of the history of science museum. In October 1950 an Assistant Lecturer was appointed, attached to the Faculty of History. In 1951 the half-subject 'History and Philosophy of Science' was introduced into the Natural Sciences Tripos (Part I), a Committee of Management for the History and Philosophy of Science having been established to oversee this. In 1956 the History of Science Committee and the Committee of Management were merged to become the History and Philosophy of Science Committee. Needham served until 1971 (Chairman 1962-1964).

- B.298-B.306 Lectures
- B.307-B.354 Committee papers and correspondence
- B.355, B.356 Writings of Gerrard Winstanley and the Diggers
- B.357-B.368 Comenius Tercentenary

Cambridge University

Lectures

B.298-B.306 Manuscript and typescript draft of 'Background to Modern Science. Ten lectures at Cambridge arranged by the History of Science Committee 1936'. 9 folders.

This was the first series of history of science lectures organised by the Committee. The collected lectures were edited by Needham and W. Pagel and published by Cambridge University Press in 1938.

Committee papers and correspondence

Principally committee papers of the History of Science Committee 1947-1955, the Committee of Management for the History and Philosophy of Science 1950-1955, and the History and Philosophy of Science Committee 1956-1971. The material was found in Needham's own folders, arranged chronologically. Also includes a little correspondence relating to the establishment of the History of Science Lectures Committee and the first series of lectures.

B.307 1935-1936, 1938. Correspondence *re* establishment of History of Science Lectures Committee and programme of lectures for 1936-1937 and ?1939. Sent to Needham by W. Pagel, 20 September 1969 and 12 April 1970.

B.308 1944-1947. Includes 'Second Memorandum on the revision of the Natural Sciences Tripos' by J.A. Ratcliffe, 3pp duplicated typescript, 4 November 1946; 'Mr Robinson's syllabus of economics for science students', 2pp duplicated typescript, 2 December 1946.

B.309 1948. Includes correspondence in which Needham expresses disquiet at the direction being taken by History of Science Committee.

B.310 1949-1950 March.

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- B.311 1950 May. Meetings of Committee of Management for the History and Philosophy of Science.

At this stage the Committee was divided into two, to consider the introduction of the subject into Parts I and II of the Natural Sciences Tripos separately.
- B.312 1950 June. Preparation of report to the University by Committee of Management for the History and Philosophy of Science.
- B.313 1950 July - December.
- B.314 1951.
- B.315 1952 January - May. Includes draft scripts for first examinations in History and Philosophy of Science.
- B.316 1952 June. 'The teaching in Cambridge of the philosophy of science' by M.M. Braithwaite, 52pp typescript.
- B.317 1952 October - December.
- B.318 1953. Includes correspondence *re* possible use of St Michael's Church, Cambridge for Whipple Museum.
- B.319 1954 January - June.
- B.320 1954 July - November. Includes material *re* establishment of Diploma course in History and Philosophy of Science.
- B.321 1955 May. Includes material *re* establishment of Diploma course.

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- B.322 1955 June, July. Includes material *re* establishment of Diploma course.
- B.323 1955 November. Includes material *re* establishment of Diploma course.
- B.324 1956 January - June. Includes correspondence with A. Koslow *re* visit to Cambridge.
- B.325 1956 October, December.
- B.326 1957 March - September.
- B.327 1957 November. Includes correspondence with D.J. Price *re* developments in history of science.
- B.328 1958.
- B.329 1959 January - March.
- B.330 1959 April - July.
- B.331 1959 October, November.
- B.332 1960.
- B.333 1961 February - June. Includes letter and manuscript note *re* talk by Needham to the British Society for the History of Science on the history of science at Cambridge, 13 May.
- B.334 1961 October.

Cambridge University

- B.335 1962. At the meeting of 29 May Needham was elected Committee Chairman from October 1962, and it was agreed to begin moves towards a Department of the History and Philosophy of Science.
- B.336 1963.
- B.337 1964 February, March.
- B.338 1964 May - October.
- B.339 1965 January - April. Includes 'Request for the formation of a Department of History and Philosophy of Science', 2pp duplicated typescript.
- B.340 1965 May - November. Includes correspondence with M.M. Davies *re* development of history of science at Cambridge.
- B.341 1966 February, May.
- B.342 1966 October, November.
- B.343 1966 November.
- B.344 1967.
- B.345 1968.
- B.346 1968-1969. Curatorship of Whipple Science Museum.

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- B.347 1969. Includes letter from Needham to Lord Annan *re* possible closure of History and Philosophy of Science Department at University College London.
- B.348 1969. Lecturership.
- B.349 1970 February - April. Includes material *re* possible establishment of Wellcome Unit for the History of Medicine at Cambridge.
- B.350 1970 May.
- B.351 1970 July - October. Includes exchange *re* Wellcome Unit.
- B.352 1970. Curatorship and Assistant Lecturership.
- B.353 1971-1972.
- B.354 1973-1977. Colloquia and seminars.

Writings of Gerrard Winstanley and the Diggers

In January 1941 L.D. Hamilton of the Oxford University History Society proposed a book of selected writings of the seventeenth century radical Gerrard Winstanley and others in the Digger movement. The proposal was put to Cambridge University Press through the History of Science Lectures Committee.

- B.355 Correspondence 1941-1942, principally from Hamilton and C. Hill.
- B.356 Typescript summary of the project and lists of Digger writings.

Cambridge University

Comenius Tercentenary

Papers relating to the celebration of the 300th anniversary of the visit of the Czech theologian and writer Comenius (Jan Amos Komensky) to England in 1641. The official commemoration was held in the Senate House of Cambridge University, 24 October 1941. A Comenius Tercentenary Committee was established, on which sat Needham (Convenor), Butterfield and Sir William Dampier, all members of the History of Science Lectures Committee. The papers delivered during the commemoration were edited by Needham and subsequently published by Cambridge University Press as *The Teacher of Nations* (working title *Science and Free Peoples*).

- B.357-B.361 Correspondence *re* the organisation of the official commemoration and subsequent publication. The chief correspondent is R.F. Young, the leading British scholar on Comenius.
- B.357 February - May 1941. Includes letter from J. Masaryk asking Young to form a committee to organise a commemoration of Comenius. Young passed a copy of the letter on to Needham.
- Folder also includes poster for talk on 'Comenius as seen by a British scientist' by Needham to Czechoslovak-British Friendship Club, London, 27 May.
- B.358 June - August 1941.
- B.359 September, October 1941.
- B.360 November, December 1941. Includes 'The problem of Central European youth', 8pp typescript sent to Needham and 3pp typescript on post-war reconstruction referring to problems of youth by the painter O. Kokoschka.
- B.361 1942.
- B.362, B.363 Cambridge Commemoration.
- B.362 Publicity booklet; poster; programme in Czech; Needham's manuscript notes on proceedings; manuscript notes of invitees etc.

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- B.363 Press-releases; press-cuttings. Also includes issue of *The Spirit of Czechoslovakia*, 30 September 1941, on Comenius.
- B.364-B.367 Typescript drafts of chapters of book. 4 folders.
The chapters were sent to Needham for editing by their authors and bear his sometimes extensive manuscript corrections.
- B.368 Annotated and corrected first proofs.

FACULTY BOARD OF ORIENTAL STUDIES

Needham was made a member of the Faculty of Oriental Languages (later Oriental Studies) in October 1949.

- B.369-B.373 General correspondence, 1947-1969.
- B.369 1947-1949. Includes correspondence with researchers wishing to work on the history of science and technology in the Far East.
- B.370 1951, 1952. Includes letter from Needham *re* vacant Professorship in Chinese Language and History.
- B.371 1953, 1954. Supervision of student.
- B.372 1955-1962.
- B.373 1967-1969. Prospective students.

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- B.374-B.376 Papers for Faculty Board of Oriental Studies meetings, 1963-1968.
- Only those papers for meetings which bear Needham's manuscript annotations have been retained.
- There is a complete set of papers of the Faculty Board meetings in Cambridge University Archives.
- B.374 1963, 1964.
- B.375 1965. Includes papers *re* proposed East Asian Centre in Cambridge.
- B.376 1966-1968.

GONVILLE AND CAIUS COLLEGE

Needham was a Fellow of Gonville and Caius College from 1924. He served as Librarian of the College 1959-1960 and President 1959-1966. In 1966 he was appointed Master, a post he held to 1976.

- B.377 Miscellaneous correspondence, 1976-1980.
- B.378-B.388 Governing Body, Ordinary College and General meetings.
- The material covers the period 1976-1980, and is chiefly papers for meetings, some annotated by Needham. There is also a little related correspondence. Subjects raised in this period include the admission of women undergraduates to the college, and the state of the college library.
- B.378 1976.
- B.379 1977 January.
- B.380 1977 April, October.

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| B.381 | 1978 January. |
| B.382 | 1978 April. |
| B.383 | 1978 October. |
| B.384 | 1979 January. |
| B.385 | 1979 April, May, October. |
| B.386 | 1980 January. |
| B.387 | 1980 February - April. |
| B.388 | 1980 April, October. |

SECTION C

**SINO-BRITISH SCIENCE COOPERATION OFFICE
(SBSCO)**

C.1-C.166

Needham's interest in China dated from contact with Chinese colleagues at Cambridge from the mid 1930s. He taught himself Mandarin Chinese and began to study Chinese science and history. In 1939, responding to appeals for assistance, he and his wife offered to go to China to help in the reconstruction of Chinese science. Meanwhile Needham was active in seeking support for Chinese academics in the UK.

Early in 1942 Needham and E.R. Dodds, Regius Professor of Greek at Oxford, were invited to visit China under the auspices of the British Council. They arrived in the autumn of 1942, Needham travelling via the USA. In China Needham was made Head of the British Scientific Mission and later Scientific Counsellor to H.B.M. Embassy at Chungking (then the 'acting-capital' of China). Under the auspices of the British Council Needham established the Sino-British Science Cooperation Office (SBSCO) and became its first Director. The SBSCO was responsible for assessing the needs of Chinese scientific, technological and medical institutions and researchers, and facilitating the supply of equipment, medicines, books and journals to China. Needham made several journeys through China, visiting many institutions to assess for himself the needs of Chinese research and teaching centres. He also gave many lectures on a variety of subjects from biochemistry to world politics. He was later joined by his wife Dorothy who was appointed Associate Director of the SBSCO.

In a letter of 22 January 1946 (C.32) to A.C. Chibnall Needham set out the logistical achievements of the SBSCO:

'...with 17 scientists (5 British, 12 Chinese), not all present at one time...we visited 300 laboratories, covering over 25,000 km journeys; we flew in by RAF over the hump [£]60,000 worth some tons of scientific equipment for Chinese scientists; we flew in some 7,000 scientific and technical books worth many millions of Chinese \$, and microfilm and actual copies of 200 leading British scientific journals. We sent 150 original MSS by Chinese authors to the west for publication, and 200 Chinese scientific journals. Exchanges of information were innumerable'.

In addition to his role as Director of the SBSCO, the Chinese Government appointed Needham adviser to the National Resources Commission, the Chinese Airforce Research Bureau and the Chinese Army Medical Administration. He was also warmly received by the Chinese scientific community and elected to a number of academies including the Academia Sinica and Peiping National Academy. Needham left China in February 1946. In October 1947 Chiang Kai-Shek awarded Needham the Order of the Brilliant Star with Cravat in recognition of his work in promoting

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good relations between Britain and China. It was presented to Needham by the Chinese Ambassador to Britain in July 1949.

Needham wrote regular reports on the organisation and state of science in China for *Nature* and in 1948 edited the book *Science Outpost* which described the work of the Sino-British Science Cooperation Office. Needham's experiences in heading the SBSCO, an experience in scientific cooperation between nations, was crucial to his formulation of plans for wider international science cooperation within the new UNESCO.

The papers include correspondence, manuscript notes and typescript drafts and printed and duplicated papers. Some material is on rice paper and in consequence fragile.

The material is presented as follows:

C.1-C.15	ORIGINS OF THE CHINA MISSION
C.16-C.55	GENERAL CORRESPONDENCE
C.56-C.70	VISITS TO INSTITUTIONS
C.71-C.78	LECTURES
C.79-C.138	REPORTS, PUBLICATIONS AND BROADCASTS
C.139-C.146	ADMINISTRATIVE
C.147-C.166	MISCELLANEOUS MATERIAL

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ORIGINS OF THE CHINA MISSION

Correspondence and papers, 1939-1942 *re* British support for Chinese universities and academics, Chinese students in Britain and correspondence *re* Needham's departure for China.

- C.1 1939 January - November. Chiefly *re* the Needhams' offer to go to China to assist in the reconstruction of Chinese science.
- C.2 Lectures by Chung-Shu Lo, appealing to British universities for assistance for Chinese universities:
- 'The past and the present of Chinese university education', 4pp duplicated typescript, London, 4 August 1939.
- 'Some ideas on cultural co-operation', 8pp typescript, Oxford, 15 November 1939.
- 'A suggestion of cultural co-operation between Cambridge University and Chinese universities', 4pp typescript, Cambridge, 8 December 1939.
- 'Chinese university education and British universities: a plea for co-operation', 4pp duplicated typescript, Oxford, nd.
- C.3 1939 December. The correspondence is chiefly with Lo *re* his lectures and the ideas put forward therein. Includes draft of 'A statement by some teachers in Oxford to those teachers and other men of learning in China...' supporting the call for cooperation.
- C.4 1940 January.
- Following the Oxford statement an informal Anglo-Chinese Intellectual Co-operation Committee was established in Cambridge. Needham was secretary. In this capacity he drafted a statement on co-operation between British and Chinese universities for Cambridge academics to sign. The material is chiefly correspondence *re* the statement from those asked to sign.
- C.5 1940 February. Includes correspondence *re* Universities China Committee and Chinese students in Cambridge.

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- C.6 1940 March - December. Includes correspondence *re* possible sabbatical visit to China, and issues of 'Cambridge China Bulletin', 12 and 19 November.
- C.7 1941 March - May. Includes request from Chinese Central News Agency for Needham to issue a statement calling for national unity, with draft of Needham's statement.
- This statement was requested of Needham, in view of the high esteem in which he was held in China, in order to ease tensions between the Communists and the Kuomintang government.
- C.8 1941 June - October.
- C.9 1942 January - February. Includes typescript notes of discussion meeting on the post-war settlement and problems in the Far East, New York, 19 January (Needham was not present); notice of election as Honorary Life member of the Cambridge Chinese Students Society; correspondence *re* China Campaign Committee day school on China, Colchester, Essex, 29 March (Needham was asked to speak on Anglo-Chinese relations).
- C.10 1942 March - June. Includes correspondence with British Council *re* invitation to visit China as Visiting Professor at the Academia Sinica.
- C.11 1942 July. Arrangements for visit to China.
- C.12 1942 August. Arrangements for visit.
- C.13 1942 September. Arrangements for visit.
- C.14 1942 October, and nd. Arrangements for visit.
- C.15 Press-cuttings *re* Needham's visit to China; miscellaneous manuscript notes.

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GENERAL CORRESPONDENCE

Correspondence from period of Needham's stay in China, and later correspondence arising from contacts made while in China. The later letters most frequently concern attempts to find research and employment opportunities for Chinese students and academics. There is also 1987 correspondence *re* historical research relating to Needham's time in China.

C.16 1942 November, December. Chiefly *re* visits to colleagues in USA en route to China. See also H.50.

Includes papers *re* meeting on problems of the War organised by the journal *Science and Society*, 28 November 1942. Needham was a member of the panel discussing the utilisation of scientists in wartime.

C.17-C.20 'Excerpts JN's Letters from China'. Contents of Needham's folder so inscribed divided into four for ease of reference: typescript extracts from Needham's letters home February - November 1943.

The first extract is headed 'Impressions of the first thirty-six hours in China asked for by Margaret Mead' but the letters appear to have been originally written to his wife Dorothy. They contain personal news (food, descriptions of hosts etc), information on scientific institutions visited and geographical, anthropological etc impressions of China.

C.17 February, March.

C.18 April - June.

C.19 July - September.

C.20 October, November.

C.21 1943. Telegrams *re* Sir William Dunn Chair of Biochemistry, Cambridge.

The Dunn Professorship of Biochemistry became vacant on the retirement of F.G. Hopkins. Needham was invited to apply in February 1943 but felt his work in China took priority. The Chair went to A.C. Chibnall and the folder includes draft of Needham's telegram of congratulation. See also B.252.

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- C.22 1943 April - July. Includes correspondence *re* invitation to Needham to visit South America on a goodwill mission. In his reply declining the invitation, 25 June, Needham sets out his plans for the work in China.
- C.23 1943 September - December.
- C.24 1944 January - March. Includes drafts of letter to Chibnall *re* the post-war organisation of the biochemistry department, his own position within it and his plans for work on the history of Chinese science and technology. See also B.252.
- C.25 1944 April, May.
- C.26 1944 June - August.
- C.27 1944 September - December. Includes press cutting recording the establishment of an office under 'Sir Joseph Needham...to promote scientific and technical contacts' between the UK and China, October, and press release and press cutting *re* Needham's brief return to the UK, December.
- C.28 1945 January - March.
- C.29 1945 April, May. Chiefly correspondence from Lu Gwei-Djen reporting on visit to USA.
- C.30 1945 June - August. Includes Needham's 6pp typescript letter to the British Council, 2 July, setting out his views on the Council's work in Iran and Iraq.
- C.31 1945 September - December. Includes correspondence *re* conservation of Tun Hwang caves.

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- C.32 1946 January - March. Includes draft letter announcing the end of Needham's work in China, and letter to Chibnall, 22 January, setting out the achievements of the SBSCO and some of his plans and expected future activities.
- C.33 1946 April. Includes copy of letters from Chinese scientists thanking Needham for his services to Chinese science and material *re* proposed Chinese Institute in London.
- C.34 1946 May. Includes correspondence *re* filling vacancies in SBSCO created by the departures of Needham, his wife and G. Sanders.
- C.35 1946 June, July. Includes requests to Needham to lecture on his experiences in China.
- C.36 1946 August. Chiefly *re* research and employment opportunities in the West.
- C.37 1946 September. Chiefly *re* research and employment opportunities.
- C.38 1946 October. Includes correspondence *re* posts in China.
- C.39 1946 November, December.
- C.40 1947 January, February. Includes correspondence with R. Hartog *re* expedition to Amne Machin mountain range on China-Tibet border, and correspondence with R.A. Silow, Director of the Science Office of the British Council in China.
- C.41 1947 March - September.

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- C.42 1947 October - December. Includes correspondence *re* award to Needham of the Order of the Brilliant Star with Cravat of the Republic of China.
- Needham wished to receive the award, presented by the Nationalist government, before the Communists took power in China. He received royal permission to receive the Order on 2 June 1949 and was presented with it on 14 July. See also A.94, C.43, C.47.
- C.43 1948 January - March. Chiefly *re* scholarship applications of T.C. Tsao. Also includes newspaper cutting *re* work of R.A. Silow, and correspondence *re* Order of the Brilliant Star.
- C.44 1948 April - August.
- C.45 1948 September - December. Includes invitation to meeting of Chinese science societies, Nanking, 9-11 October (Needham did not attend but sent a message of goodwill to the meeting) and correspondence *re* Message for the Anniversary of Nanking University by Needham, broadcast on BBC Chinese Service, 11 November.
- C.46 1949 February, March. Includes draft programme and manifesto of Campaign for a World Truce.
- C.47 1949 April - June. Includes typescript account of fall of Nanking to the Communist forces and first impressions of Communist rule, sent to Needham in June, and correspondence *re* Order of Brilliant Star (see C.42 above).
- C.48 1949 July - September.
- C.49 1949 October - December. Includes correspondence *re* lectures at Birmingham University on science in China.
- C.50 1950 January - July. Includes material *re* Needham's remarks at China Welfare Appeal 'Friendship Dinner', New York, 5 May.

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- C.51 1950 September - December. Includes report on 'Scientific research and university education' by C.C. Chu, Vice-President of Chinese Academy of Sciences, 29 October.
- C.52 1951.
- C.53 1952-1953.
- C.54 1987. Includes correspondence *re* research on Sir Horace Seymour, UK ambassador to China 1942-1946.
- C.55 Nd.

VISITS TO INSTITUTIONS

In China Needham made a great number of visits to scientific, medical, industrial and educational institutions throughout China. He kept manuscript notes of his visits, in Chinese and in English, recording the history of the institution, the research being done, colleagues he met and the needs of the institution for scientific support from UK. He also reported on his visits to the British Council and published accounts of his travels in a series of articles in *Nature* (see C.79-C.94).

The great majority of Needham's notes are numbered. The sequence runs from 1 to 297 and the index to most of the sequence (nos. 1-220) is in Needham's notebook at C.56.

- C.56 Hardback pocket notebook labelled 'Visits' on spine. Most pages not used. Loose at back is sketch map of West China Union University campus.
- C.57-C.69 Manuscript notes on visits, 1-297.
- Notes kept in a series of envelopes inscribed 'Visits to institutions'.
- The sequence is not complete: not all numbers were used for the sequence (such as 28-36) and some notes were missing from the envelopes, including those listed in C.56 as being 'secret'.

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- | | |
|------|---|
| C.57 | 1-20. |
| C.58 | 21-50. |
| C.59 | 51-80. |
| C.60 | 81-102. |
| C.61 | 110-130. |
| C.62 | 131-151. |
| C.63 | 153-168. Also Dorothy Needham's notes on visits 153-159.

Needham's original manuscript notes on visit 153, to 'E.M.S.T.S. [Emergency Medical Service Training School]', Kweiyang, are to be found in the collection of papers of Needham held by the Imperial War Museum, London, NCUACS 55/4/95, folder no. 71. |
| C.64 | 169-185. |
| C.65 | 187-210. |
| C.66 | 211-221, 257-260. |
| C.67 | 262-273. |
| C.68 | 274-284. |

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C.69 285-297.

C.70 Unnumbered manuscript notes on visits to Chinese institutions.

LECTURES

Needham delivered many lectures in connection with his service in China, frequently in association with his visits to various institutions.

The material is manuscript and typescript notes and drafts for lectures, usually with title or subject area given but less often with date, location or audience. The notes are usually in English with occasional Chinese additions but a few are written out in Chinese transcribed into Latin characters.

C.71 List of 'Some of the titles of lectures and addresses which Dr Joseph Needham, FRS, is prepared to give'.

The list includes general lectures on the organisation of science and the sociology and philosophy of science, and more specialised lectures on biochemical and biological subjects and on the history of science.

See also G.57-G.62.

C.72 'GD Washington 15th Nov. 1942 intended for New York branch Tzu-rjan Ko-shioh Hui fênghui (branch)'

'Sunday talk to Xtn [Christian] students' on science and religion, Kunming 13 March 1943; Lanchow 6 September 1943 and Shaown 28 May 1944.

'Hoppy & Cambridge Biochemistry at [?T'anqo] Sci Club', March 1943.

Typescript report on lecture on Science and Society, West China Union University, Hwa Ta, 4 May 1943.

'International science co-operation in war and peace', Annual Conference of Chinese Scientific Societies, Beipei, Szechuan, July 1943. 13pp typescript.

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- C.73 'Talk to Government officials @ Lanchow - Kansu Prov. Gov.', 17 November 1943.
- Lecture to 'Lanchow Rotary Club' on the work of the SBSCO, 18 November 1943.
- 'Science and agriculture in China and the West', Agricultural Association of China, Chungking, 22 February 1944.
- 9pp typescript and manuscript draft; printed copy (in Chinese).
- 'Science and democracy', Hsienjêngmiao, May 1944 and Kioayang Science Institute, August 1944.
- C.74 'Science and Industry', Yunnan Industrial Federation Club, 7 October 1944.
- 'Abstract of a lecture on Science and civilisation in China given before the Science Society of China, Chekiang University, Meitan, October 1944'.
- Report to Executive Committee of British Council, UK, 12 December 1944.
- Work of SBSCO, Universities China Committee, UK, 13 December 1944.
- Science and Britain's war effort, May 1945.
- 'Talk to Baochi Federation CIC' on industrialisation of China, 6 October 1945.
- C.75 Notes for lectures on work of SBSCO and position of science in China.
- C.76 Notes for lectures on biochemical and biological subjects.
- C.77 Notes for lectures on international science and politics.
- C.78 Miscellaneous lecture notes.

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REPORTS, PUBLICATIONS AND BROADCASTS

Includes Needham's reports to the British Council on his three years in China, detailed accounts of travels within China for the British Council and for *Nature*, and other publications arising from his work, including material relating to his book *Science Outpost* in which he described the work of the SBSCO.

- C.79 'Report on a journey in the North-West, occupying Aug., Sept., Oct., Nov. 1943', 19pp typescript with extensive manuscript additions and corrections + 1p addendum.
- C.80 'Science and technology in the North-West of China', 17pp typescript.
Nature **153** (1944), 238-241.
- C.81 'Report of a journey in the South East of China, occupying April, May & June 1944', 25pp typescript with manuscript additions and corrections.
- C.82 'Science in Kweichow and Kuangsi', 10pp typescript.
Nature **156** (1945), 496-499.
- 'Journeys in South-East China', account taken from Needham's report to the British Council, published in *Geographical Journal* **106** (1945), 83-84.
- C.83 'Science and technology in China's far South-East', 8pp typescript.
Nature **157** (1946), 175-177.
- C.84 'Report on a journey in the Southwest of China, occupying August, September and October, 1944', 24pp typescript with manuscript additions and corrections + addendum.
- C.85 'Science in South-West China', 31pp typescript
Nature **152** (1943), 9-10, 36-37.

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- C.86 'Science in western Szechuan', 22pp typescript.
Nature **152** (1943), 343-345, 372-374.
- C.87 'Chungking mining and industrial exhibition', 11pp typescript.
Nature **153** (1944), 672-675.
- C.88 'Report of a journey in the north of China occupying September and October 1945', 29pp typescript with extensive manuscript additions and corrections; letter *re* report, 13 March 1946.
- C.89, C.90 'Report of the first year's working of the Sino-British Science Cooperation Bureau'.
C.89 30pp typescript.
C.90 Proof copy with manuscript corrections.
- C.91, C.92 'Report of second and third years' working of the Sino-British Science Co-operation Bureau'.
C.91 47pp duplicated typescript.
C.92 Proof copy with manuscript corrections.
- C.93, C.94 'Lists referred to in the reports of the Sino-British Science Co-operation Bureau'. 2 folders.

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- C.95 Memoranda on future British Council policy in China.
- A memorandum was sent by P.M. Roxby, head of the British Council mission in China, to the British Council in November 1945. Needham added a set of complementary recommendations in a second memorandum.
- 'Final version' of Needham's memorandum, 11pp typescript with extensive manuscript additions; Roxby's comments on Needham's memorandum, annotated by Needham; correspondence *re* the memoranda.
- C.96 'Observations on the London-appointed staff members of the Scientific Office in Chungking' by Needham, 17 November 1945.
- 5pp typescript and manuscript draft; 6pp typescript + addenda; related correspondence.
- C.97-C.101 'Final memorandum to the British Council' by Needham, 14 April 1946.
- The memorandum enclosed documents relating to the SBSCO. These included the second and third years' report which may be found at C.91, C.92 above.
- C.97 Memorandum, 2pp typescript.
- C.98 Correspondence exchanged between Roxby and Needham on the conduct of British Council affairs in China, January - February 1946.
- C.99 Early drafts of Needham's letters to Roxby in this exchange.
- C.100 'Report to his Excellency President and Generalissimo Chiang Kai-Shek on the position and prospects of science and technology in China' by Needham, 56pp typescript final draft with manuscript corrections and additions, Chungking, Winter 1945.
- This report arose from a conversation between the Generalissimo and Needham on the state of science in China.
- C.101 Circulation list of copies of report to Chiang Kai-Shek; correspondence *re* report.

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- C.102 *Chinese Science*, Pilot Press, London, 1944.
- This short book gave an account of the state of Chinese science, profusely illustrated by photographs taken by Needham.
- Correspondence; publicity material.
- C.103 'Sino-British Scientific and Technical Cooperation', *Washington Scientist* 1 (1945), 30.
- Reprint only.
- C.104-C.136 *Science Outpost*, ed. with D.M.M. Needham, Pilot Press, London, 1946.
- Science Outpost* gave an account of the history and work of the SBSCO. It brought together articles and reports, extracts from letters and from Dorothy Needham's diary and poems by Rewi Alley and others.
- Many of the pieces which Needham included in the book are to be found elsewhere in this section.
- C.104-C.111 'Science Outpost papers'. Contents of Needham's folder so inscribed divided into eight for ease of reference.
- C.104, C.105 Correspondence with publishers, British Council and others 1946-1949. 2 folders.
- C.106 Contract with publishers; publicity material.
- C.107 Statements by Needham on his work for the SBSCO:
- 'Scientific & Technical Co-operation in China', two slightly different 3pp typescripts; 'Sino-British Scientific & Technical Co-operation', 3pp typescript;
- C.108 Talks by Needham: 'Scientific cooperation and Atomic energy', 3pp typescript for radio broadcast, 25 December 1945; 'Postscript [on impressions of China in wartime]', 10pp typescript.

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- C.109-C.111 Miscellaneous typescript and duplicated typescript papers on Chinese science, principally biochemistry and chemistry, and related subjects. 3 folders.
- C.112-C.114 'Acta Brevia Sinensia file copy'. Contents of Needham's folder so inscribed divided into three for ease of reference: duplicated typescript 'Scientific and technological notes from China', 1943-1945.
- These notes were prepared by the Natural Science Society of China and distributed by the British Council through the SBSCO. They give accounts of work in progress in Chinese research institutions.
- C.115-C.118 'Material \neq [not] used in Sci Outpost'. Contents of Needham's folder so inscribed divided into four for ease of reference.
- C.115 Typescript narratives by Rewi Alley.
- C.116 Extracts from Needham's diary; accounts of activities of the National Academy of Peiping and the Academia Sinica.
- C.117 'Definitive illustrations for Science Outpost numbered captioned and listed'.
- C.118 Miscellaneous material.
- C.119-C.126 Typescript and manuscript draft of *Science Outpost* with extensive manuscript additions and corrections. 8 folders.
- C.127 Typescript and manuscript lists of illustrations.
- C.128 Typescript and manuscript indexes.
- C.129-C.135 Corrected proof copy of *Science Outpost*. 7 folders.

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- C.136 Miscellaneous manuscript notes etc *re Science Outpost*; letter of appreciation, February 1949.
- C.137 BBC radio broadcasts:
- 'Observation Post', broadcast various times 10-14 October 1947. This included a short interview with Needham on Chinese science.
- Duplicated typescript transcript.
- 'Sunday Discussion' on 'How far can an Eastern University usefully draw upon Western Culture?', broadcast by Far Eastern Service 16 October 1949. Needham and Sir John Sargent were the speakers.
- Correspondence with the BBC; Needham's manuscript notes; duplicated typescript transcript.
- C.138 'Journal of the North-West Tour', *The Times Literary Supplement*, 10 September 1993.
- This was an extract from Needham's unpublished journal of his tour to this area of China in the autumn of 1943. See above C.79, C.80.

ADMINISTRATIVE

- C.139, C.140 'Master copy [of the] filing hand list'. 2 folders.
- Typescript and manuscript list for SBSCO filing system. The classes of document provided for by the listing are: Reports, Office [papers], Correspondence (General), Visits, Information and exchanges, Printed matter: books, Printed matter: periodicals and microfilms, Scientific supplies [and] transport of all supplies, Vehicles, Enterprises, Films & radio, Music, Medicine, and International contacts.
- C.141 'Tentative classification of Chinese universities as to standards' by Needham, 2pp typescript, 12 January 1946; list of 'Nominations for Professorships', 2pp typescript, February 1946; 'Scheme of organisation of science in China', 3pp typescript, nd; 'List of Diplomatic officials of the British Embassy, 2pp typescript, nd.

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- C.142 Lists of orders of scientific supplies for Chinese universities and of 'missing orders', sent to Dorothy Needham 15 March 1946.
- C.143 'List of drugs for China', 2pp typescript and 'List of medical supplies taken to China by Dr Sanders', 2pp typescript.
- C.144-C.146 Miscellaneous administrative correspondence and papers.
- C.144 Correspondence and papers *re* travel, 1944-1946.
- C.145 Correspondence *re* theft of clothes from Peking hotel, March 1946.
- C.146 Correspondence *re* supply of scientific and medical equipment, April - June 1946.

MISCELLANEOUS MATERIAL

- C.147-C.149 Membership of Chinese learned societies:
- C.147 Correspondent Member, National Academy of Peiping, 19 January 1943.
Correspondent Member, Chemical Institute and Zoological and Botanical Institute, Academia Sinica, 1 March 1943.
Honourable Member, Chinese Chemical Society, Pehpie Chapter, 15 June 1943.
- C.148 Honorary Member, Science Society of China, July 1943.
Honorary Member, Chinese National Farmers' Association, 29 October 1944.
Corresponding Research Fellow, Institute of Zoology, Academia Sinica, 24 May 1945.
Honorary Member, Natural Science Society of China, 28 February 1946.

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- C.149 Other Chinese societies.
- C.150 Appointment as Advisor to Chinese Air Force Research Bureau.
- C.151 Manuscript notes by Needham on itineraries, travel arrangements etc.
- C.152 Brochure of UNESCO exhibition 'L'effort de Guerre fourni par la Chine dans le domaine de la science et le travail de l'Office de Cooperation Scientifique de Sino-Britannique', with photographs of the exhibition display.
- C.153 Papers by R.A. Silow: 'The scientific activities of the British Council in China', *Science and Technology in China* 1 (1948); 'Mission to China', *Empire Cotton Growing Review* 27 (1950).
- C.154-C.156 Printed material: pamphlets, articles, journals etc. 3 folders.
- C.157-C.159 Press cuttings.
- C.157 Chinese language. Folder also includes printed notices of surrender of Italy 1943 and the Japanese surrender.
- C.158 English language.
- C.159 Russian language. The cuttings are of the Red Army victory parade in Moscow.
- C.160 Miscellaneous typescripts. Includes papers on Chinese cooperatives by Rewi Alley.

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Memorabilia

- C.161 Social functions and contacts.
- C.162 Prints, drawings and paintings.
- C.163 Unidentified Chinese language material.
- C.164 Photographs.
- Group photograph of Chengtu Committee for aiding Sino-British Science Cooperation, with key. Needham is featured.
- 'Miaotaidze photos for Δ [Dorothy Needham]'. Photographs of Taoist temple at Miaotaidze, identified on verso.
- Group photograph ?of members of Chinese learned society. Needham is featured (twelfth from the right, second row from bottom).
- C.165 SBSCO stationery.
- C.166 Miscellaneous memorabilia. Includes 8pp typescript 'Tibetan Folk Songs, tr [into French and German] Yü Tao-Chuen'.

SECTION D

**UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND
CULTURAL ORGANISATION (UNESCO)**

D.1-D.365

In October 1942 the Conference of Allied Ministers of Education (CAME) was formed to discuss the post-war educational needs of Allied countries, focusing in particular on those under Axis occupation. Various committees were created under the auspices of CAME and by 1944 the Conference had developed into a far-reaching organisation whose remit covered almost all aspects of the cultural reconstruction of occupied Europe. It was felt that after the war the example of this body, which was showing the possibilities of international cooperation in cultural and educational matters, should not be forgotten but brought under the auspices of the United Nations. Accordingly in March 1944 plans were advanced for the establishment of a United Nations Organisation for Educational and Cultural Reconstruction. In April 1944 the US State Department accepted the desirability of a 'United Nations Educational and Cultural Organisation' and later that year the UK government also gave its support to the creation of such a body. CAME began drafting plans for its transformation into UNESCO and published its draft proposals.

Needham was in China during this period with the Sino-British Science Cooperation Office (see section C). He believed that scientific cooperation should come within the remit of the post-war United Nations and in July 1944 he prepared a 'Memorandum on an international science co-operation service' (D.2). This was circulated by the British Council. In December 1944 Needham sent out a second memorandum to the UK parliamentary and scientific committee on 'Measures for the organisation of international co-operation in science in the post-war period' (D.6). Needham may have been the first to use the abbreviation 'UNESCO', in a manuscript note of February 1945, and his third memorandum (D.12-D.14) on 'The place of science and international scientific co-operation in post-war world organisation', April 1945, publicly advocated the inclusion of the word 'Scientific' in the title of the organisation being planned. In the same month the drafting organisation for the United Nations Organisation for Educational and Cultural Cooperation rejected the inclusion of the word 'Scientific' but renewed pressure, in part through the wide distribution of Needham's third memorandum, and support, particularly from J.G. Crowther and US colleagues, succeeded in keeping the issue open.

In November 1945 the United Nations Educational and Cultural Conference held in London to draft the constitution of the new body agreed to include the word 'Scientific' in its title and to give it responsibilities in international scientific cooperation. A Preparatory Committee was formed and the first session of the UNESCO General Conference met in Paris in November 1946 to establish the

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Organisation formally. J.S. Huxley was elected its first Director General and Needham was appointed Director of the Natural Sciences Section. He served until April 1948.

Needham gave an account of the work of UNESCO in his Robert Boyle lecture on Science and International Relations, 1 June 1948 (see G.70, G.71).

The material is presented as follows:

D.1-D.39	EARLY HISTORY OF UNESCO
D.40-D.200	UNESCO GENERAL
D.201-D.316	NATURAL SCIENCES SECTION
D.317-D.339	UNITED NATIONS RESEARCH LABORATORIES
D.340-D.358	BRITISH COMMITTEE FOR CO-OPERATION WITH UNESCO IN THE NATURAL SCIENCES
D.359-D.365	FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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EARLY HISTORY OF UNESCO

Most of this material (D.1-D.32) was found in three of Needham's folders inscribed 'CAME UNECO and the origins of UNESCO', with further descriptions of the contents thereon. These descriptions are reproduced in the catalogue entries.

- D.1-D.11 'Dr Joseph Needham's Archives pt. 1 From the T.V. Sung conversations of Dec 1943 to my return to Chungking in April 1945 after the Washington negotiations. Memo I Chungking July 1944 Memo II London Dec. 1944'. Contents of folder so inscribed divided into eleven for ease of reference.
- D.1 Background material. Includes 'First statement of the conception of an international science cooperation service, in a letter from Dr Joseph Needham, FRS (Director of the Sino-British Science Cooperation Office) to H.E. Sung Tze-Wen (T.V. Soong), Minister of Foreign Affairs, Chungking', 29 December 1943; and 'Suggestions for the development of the Conference of Allied Ministers of Education into the United Nations Organization for Educational and Cultural Reconstruction', annotated 'J.G.C[rowth] 12.4.44', with comments and amendments arising.
- D.2 'Memorandum on an international science co-operation service' by Needham, Chungking, July 1944. This was the first of Needham's three memoranda.

Manuscript notes; 19pp typescript and 9pp duplicated typescript drafts; 15pp duplicated typescript.
- D.3 Correspondence *re* distribution of the memorandum. Includes list of recipients sent to J.G. Crowther, 25 July 1944.
- D.4 Correspondence from those receiving copies of the memorandum, including comments thereon, August - December 1944.
- D.5 'A Memorandum on the activities and future plans of international scientific organizations. 1919-1944', 48pp typescript, annotated by Needham 'WB Cannon & RM Field Undated but I think Oct 1944'.

.../

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- /... Pages from *Nature*, 25 November 1944, featuring Needham's memorandum published as 'An international science cooperation service', and editorial comment 'Dissemination of scientific information' focusing on Needham's article; brief correspondence *re* re-publication of the article.
- Needham had not intended the memorandum for publication; it was sent to *Nature* for their information only.
- D.6 'Memorandum addressed to the parliamentary and scientific committee (December 1944). Measures for the organisation of international co-operation in science in the post-war period', London, December 1944. This was the second of Needham's memoranda.
- 4pp and 5pp typescript drafts; 5pp duplicated typescript.
- D.7 Correspondence and papers, December 1944 - January 1945.
- D.8 Correspondence and papers, February 1945. Includes list of 'Activities suggested for UNECO' by G.N. Kefauver, the US delegate to CAME, and manuscript notes and typescript comments thereon by Needham.
- One of Needham's notes records the three requirements he felt were needed 'To make UNECO work'. These were the addition of the word 'Scientific' in the title, a reference to applied (as well as pure) science in the preamble and a good scientific director. Needham uses the abbreviation UNESCO, perhaps the first occasion on which it was used.
- In February - March 1945 Needham visited the United States, during which visit he discussed his plans for future international cooperation in science with American colleagues.
- D.9 Correspondence and papers, March 1945.
- D.10 'The place of science in a United Nations Educational and Cultural Organisation', March 1945. This was a preliminary version of Needham's third memorandum and was not widely circulated.
- Manuscript and typescript draft with extensive correction; letter *re* distribution of memorandum, 16 March.

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- D.11 Correspondence and papers, April - May 1945. Includes papers of CAME relating to establishment of United Nations Organisation for Educational and Cultural Reconstruction. At the 10 April meeting of the Drafting Committee drawing up the constitution of the body J.G. Crowther attempted, unsuccessfully, to insert 'Scientific' into the title.
- D.12-D.24 'Dr Joseph Needham's Archives pt. 2 From April 1945 to end December 1945. Memo III Chungking April 1945'. Contents of folder so inscribed divided into thirteen for ease of reference.
- D.12-D.14 'The place of science and international scientific co-operation in post-war world organisation', Chungking, 28 April 1945. This was the third of Needham's three memoranda.
- D.12 Typescript draft with extensive manuscript corrections and additions.
- D.13 46pp typescript 'Master-copy 9 for mimeographing in CK' retained in original folder.
- D.14 31pp duplicated typescript + appendices and index.
- D.15 Miscellaneous manuscript and typescript notes, including lists of those to receive a copy of third memorandum.
- D.16 Correspondence and papers, May 1945, chiefly *re* attempt to persuade CAME to widen the scope and include the word 'Scientific' in the title of UNECO, at their meeting of 16 May.
- D.17 Correspondence *re* distribution of third memorandum, May - July 1945. Includes letters from recipients.
- Distribution of the memorandum in the UK was chiefly through J.G. Crowther
- D.18 Papers, chiefly *re* meetings of CAME, June - August 1945. Includes '1st proof' of CAME's 'Draft proposals for an Educational and Cultural Organisation of the United Nations', 9 July.

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- D.19 Correspondence from recipients of third memorandum, including comments thereon, August 1945.
- D.20 Correspondence from recipients of third memorandum, including comments thereon, September 1945.
- The memorandum was considered at a meeting of the Science Commission of CAME on 11 September. They recommended that it be put before CAME.
- D.21 Correspondence and papers, October 1945, chiefly comments on third memorandum.
- D.22 Correspondence and papers, November 1945, chiefly *re* United Nations Educational and Cultural Conference.
- The Conference, meeting in London, signed the constitution establishing UNESCO on 16 November.
- D.23 'CAME photos'. Contents of Needham's envelope so inscribed: photographs of members of CAME, identified on verso. Probably taken during the Educational and Cultural Conference.
- D.24 Correspondence and papers, December 1945.
- D.25-D.32 'Dr Joseph Needham's Archives From Jan. 1946 - Vol. III'. Contents of folder so inscribed divided into eight for ease of reference.
- D.25 Correspondence and papers, January - April 1946. Includes telegram sent to Needham in Chungking *re* his appointment as Director of Natural Sciences of UNESCO.
- D.26 Correspondence, May - November 1946.

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- D.27 Correspondence and manuscript notes, February - April 1947. Chiefly *re* Needham's intended resignation at the end of the year, and UNESCO appointments policy.
- D.28 Correspondence, May - June 1947. Includes Needham's letters to Dorothy Needham explaining the situation and current developments at UNESCO.
- D.29 Correspondence, August - September 1947. Chiefly *re* extension of Needham's appointment into 1948.
- D.30 Correspondence and papers, October 1947 - January 1948. Chiefly *re* administrative problems within UNESCO.
- D.31 Correspondence and papers, February - March 1948. Chiefly *re* administrative problems. Includes 'Personal statement of Joseph Needham, FRS to the members of the Advisory Committee on the organisation and administration of UNESCO', 9pp typescript + annexes, 7 February.
- D.32 Correspondence and papers, April - May 1948. *Re* Needham's departure from UNESCO.
- D.33-D.37 'Unesco Historical'. Contents of Needham's folder so inscribed divided into five for ease of reference.
- D.33 Third memorandum, 'The place of science and international scientific co-operation in post-war world organisation', Chungking, 28 April 1945.

42pp duplicated typescript. The document has been reproduced on poor quality Chinese paper and probably was intended for distribution by Needham himself within China.
- D.34 Master-copies of letters sent covering the final version of third memorandum; miscellaneous manuscript notes including lists of recipients; typescript drafts of list of contents of third memorandum with extensive manuscript correction.

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- D.35 Copy of the constitution of UNESCO as agreed in London, 16 November 1945, 16pp duplicated typescript.
- D.36 'Archives of UNESCO. Deposition of Papers relative to the Conference of Allied Ministers of Education and the inclusion of Pure and Applied Science in the projected United Nations Organisation for Education and Culture' by Needham, 3pp duplicated typescript, 27 January 1947; correspondence *re* research on the origins of UNESCO, 1947-1949.
- D.37 Miscellaneous printed material.
- D.38 Correspondence *re* research on origins of UNESCO, 1966-1977. Includes correspondence arising from *New Statesman* article 'The "S" in Unesco' by Nigel Calder, and correspondence with D. Mylonas (see D.39).
- D.39 'La Conference des Ministres Allies de l'Education (Londres 1942-1945) de la cooperation educative dans l'Europe en guerre a la creation d'une organisation internationale', by D. Mylonas, Ph.D. thesis for University of Geneva. Sent to Needham 16 October 1972 (see D.38).
- Retained in original binding.

UNESCO GENERAL

D.40-D.111	General Conference
D.112-D.137	Executive
D.138-D.160	Correspondence
D.161-D.176	Scientific and Cultural History of Mankind
D.177-D.186	Publicity and information literature
D.187-D.200	Miscellaneous

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General Conference

The General Conference was the chief forum and governing body of UNESCO. At its annual meetings the Executive of UNESCO was elected by the delegates.

- D.40-D.42 First General Conference, Paris, 19 November - 10 December 1946.
- D.40 'Guide de la première Conférence générale et du mois de l'U.N.E.S.C.O.'
(programme and information booklet).
- D.41 'Rules of Procedure for the General Conference'; 'Liste des documents'.
- D.42 Miscellaneous papers for the General Conference.
- D.43-D.54 Second Session of the General Conference, Mexico City, November 1947.
- D.43, D.44 'Memorandum on the Grants-in-aid allocated by UNESCO to international
scientific organisations in 1947'. Contents of Needham's folder so labelled.
2 folders
- D.45, D.46 Other general conference papers, principally concerning matters of scientific
interest. 2 folders.
- D.47, D.48 Papers for Working Party L: Natural Sciences. 2 folders.
- D.49 Press releases.
- D.50-D.54 'Unesco 2nd General Conf. Mexico City misc papers'. Contents of
Needham's envelope so inscribed divided into five for ease of reference:
miscellaneous memorabilia from the conference and Mexico City, including
press-cuttings from Mexican newspapers. At D.50 is cutting from *Mexico
City Herald*, 19 November, profiling Needham.

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- D.55-D.97 Third Session of the General Conference, Beirut, 17 November - 11 December 1948.
- Needham attended the conference in a dual official capacity - as Honorary Scientific Adviser to UNESCO and as a member of the UK delegation. Needham also acted as observer for the World Federation of Scientific Workers (see K.330). At the conference he delivered a lecture on 'The unity of science: Asia's indispensable contribution'.
- Needham travelled home via Turkey where he visited colleagues in universities in Ankara and Istanbul.
- D.55 Correspondence and papers *re* travel arrangements.
- D.56 Conference pass; 'Guide et Calendrier du mois de l'UNESCO', extensively annotated by Needham.
- D.57-D.64 General conference papers. Duplicated typescript, with some manuscript notes by Needham. 8 folders.
- Material includes budget estimates (at D.59) and report of the Director General for 1948 (at D.64).
- D.65-D.67 'The unity of science: Asia's indispensable contribution'.
- Versions of this lecture were published in *Asian Horizon*, (in French) in *Archives Internationales d'Histoire des Sciences*, April 1949, and (in Arabic) in the Arabic edition of the *Listener*, 19 July 1950. It also formed the basis of two broadcasts for the BBC radio Third Programme (see G.122) and a lecture to the Royal Central Asian Society (see G.74)
- D.65 Typescript draft, with manuscript corrections and typescript additions.
- D.66 29pp typescript (in French).
- D.67 Copy of Arabic version; correspondence *re* publication.

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- D.68-D.84 Papers of Conference General Committee and Commissions.
- The material is principally duplicated typescript papers. They have been arranged following the reference system adopted for the conference.
- D.68, D.69 Information. 2 folders.
- D.70 General Committee of the Conference.
- Committee on Constitution and Procedure.
- D.71-D.78 Programme and Budget Commission.
- The bulk of this material is papers for subcommissions of the Programme and Budget Commission.
- D.71 General commission papers.
- D.72 Reconstruction subcommission.
- D.73 Communication and Education subcommissions.
- D.74 Cultural Questions subcommission.
- Needham was rapporteur for a Joint Meeting with the Natural Sciences subcommission on the Scientific and Cultural History of Mankind Project. The folder includes Needham's manuscript notes taken at the meeting.
- D.75-D.77 Natural Sciences subcommission.
- The subcommission held two meetings on 23 November and a third joint meeting with the Cultural Questions subcommission on 26 November (see D.74 above). Needham was rapporteur at the meetings. Includes Needham's manuscript notes and typescript reports on meetings. 3 folders.
- D.78 Social Sciences and Exchange of Persons subcommissions.

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- D.98-D.105 Fourth Session of the General Conference, Paris, 19 September - 1 October 1949.
- D.98, D.99 General conference papers. 2 folders.
- D.100, D.101 Programme and Budget Commission. 2 folders.
- D.102, D.103 Official and External Relations Commission. 2 folders.
- D.104 Administrative Commission.
- D.105 Conference 'Journal' for 28 September; report of the UK delegation to the Minister for Education, Cmnd. 7863, January 1950.
- D.106 Fifth Session of the General Conference, Florence, 22 May - 17 June 1950
Report of the UK delegation to the Minister for Education, Cmnd. 8066, October 1950.
- D.107-D.111 Sixth Session of the General Conference, Paris, 18 June - 11 July 1951.
- D.107, D.108 General conference papers. 2 folders.
- D.109, D.110 Programme and Budget Commission. 2 folders.
- D.111 Official and External Relations Commission; report of the UK delegation to the Minister for Education, Cmnd. 8439, January 1952.

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Executive Board

Duplicated typescript papers for information and meetings of the Executive Board of UNESCO and its committees, 1947-1950.

- D.112 Executive Board second session, April 1947.
- D.113-D.115 Executive Board sixth session, January - February 1948. 3 folders.
- D.116 Executive Board seventh session, April 1948.
- D.117 Programme Committee fourth session; Finance Committee Sixth Session, April 1948.
- D.118-D.121 Executive Board eighth session, June - July 1948. 4 folders.
- D.122, D.123 Finance Committee eighth session, June - July 1948. 2 folders.
- D.124 Nominations Committee third session, July 1948.
- D.125 Committee on Relationships with International Non-governmental Organisations third session, July 1948.
- D.126, D.127 Executive Board fourteenth session, January - February 1949. 2 folders.
- D.128 Committee for External Relations first session, February 1949.
- D.129 Executive Board fifteenth session, April 1949.

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- D.130 Committee for External Relations second session, May 1949; Executive Board sixteenth session, June 1949.
- D.131, D.132 Executive Board seventeenth session, September - October 1949. 2 folders.
- D.133-D.136 Executive Board nineteenth session, January - February 1950. 4 folders.
- At D.136 is exchange between Needham and J.S. Huxley on the Board paper dealing with relations with international non-governmental organisations.
- D.137 Executive Board twentieth and twenty-third sessions, March, August 1950.

Correspondence

- Miscellaneous correspondence *re* general UNESCO business found in Needham's folders.
- D.138-D.149 'Unesco current corresp.'. Contents of Needham's bulky folder so inscribed divided into twelve for ease of reference: miscellaneous correspondence March 1948 - March 1949.
- At D.148 and D.149 are contents of folders found within the bulky folder.
- D.138 1948 March.
- D.139 1948 April. Includes invitations to speak at International Congress on Population and World Resources in Relation to the Family, Cheltenham, 23-27 August and to attend Society for Visiting Scientists Symposium on Science at the UNESCO General Conference in Mexico; reports on Natural Sciences section meetings, 15, 24 and 30 April; personal letters from Lu Gwei-Djen reporting on situation within UNESCO.
- D.140 1948 May. Includes invitation to speak at Progressive League meeting on UNESCO, Frensham Heights School, Farnham, Surrey, 15 August and to the Cambridge Philosophical Society, 3 June; reports on Natural Sciences section meetings 21 and 28 May; personal letters from Lu.

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- D.141 1948 June. Includes correspondence *re* Working Parties for Royal Society Scientific Information Conference, 21 June - 2 July (see J.209-J.218); personal letters from Lu.
- D.142 1948 July. Includes letter to *The Times* (marked 'Not for publication') *re* 'Records of research', arising from a proposal of J.D. Bernal for the rationalisation of scientific publications; letter to Sir John Maud *re* UK policy towards and problems within UNESCO.
- D.143 1948 August. Includes correspondence and papers *re* Progressive League meeting and International Congress on Population and World Resources; invitation to participate in BBC Overseas Service radio discussion on 'Science across the Frontiers' during British Association meeting in September.
- D.144 1948 September. Includes 'Activity Report' of UNESCO East Asia Field Scientific Cooperation Office, 1947-1948 which pays tribute to Needham's work; request for list of Chinese scientists who could be invited to Seventh Pacific Science congress, New Zealand, February 1949, with Needham's reply; incomplete typescript notes of 'Science across the Frontiers' BBC radio broadcast, with Needham's jottings; letter to Sir Stafford Cripps, Chancellor of the Exchequer, *re* the Director-Generalship of UNESCO.
- D.145 1948 October, November.
- D.146 1948 December.
- D.147 1949 January, March. Includes correspondence *re* informal meeting to discuss the East African Groundnut and Sorghum schemes, 20 January; letters to Sir John Maud *re* personnel situation in UNESCO.
- D.148 'Lebanon Exhibn'. Contents of Needham's folder so inscribed: correspondence and papers *re* transport to the UNESCO General Conference in Beirut of the Atomic Scientists' Association travelling Atomic Energy Exhibition, April - November 1948.

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- D.149 'after 2 years in UNESCO'. Contents of Needham's folder so inscribed: manuscript notes *re* problems and tensions within UNESCO.
- D.150-D.158 Contents of Needham's folder divided into nine for ease of reference: miscellaneous correspondence and papers *re* UNESCO business, 1948-1955.
- D.150 1948.
- D.151 1949 January, February. Includes invitation to speak at discussion meeting of Society for Visiting Scientists, 15 February (accepted); and Needham's typescript account of House of Lords debate on UNESCO.
- D.152 1949 March. Includes exchange with Sir Stafford Cripps *re* Truman Program aid to undeveloped regions.
- D.153 1949 April - July. Includes invitation to speak on UNESCO at British Association meeting in September.
- D.154 1949 September - December. Includes information *re* project for an international museum of civilisation, which Needham supported.
- D.155 1950 January - June. Includes correspondence *re* UNESCO 'Statement on Race'; Activity Report of UNESCO East Asia Science Cooperation Office, March - December 1949.
- D.156 1950 July - October. Includes papers *re* UNESCO 'Statement on Race', July; paper by A. Leveille on 'An international museum of civilisation'.
- D.157 1951. Includes correspondence *re* revision of 'Statement on Race'.
- D.158 1952-55, nd.

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- D.159 'China Mission'. Contents of Needham's folder so inscribed: correspondence *re* possible establishment of Field Science Cooperation Office in mainland China, September 1949 - October 1950.

The inspiration for the Field Science Cooperation Office was Needham's work with the Sino-British Science Cooperation Office during the Second World War. The political situation in China in the period covered by this material presented considerable difficulties in establishing a field office there.

- D.160 'ACTH'. Contents of Needham's folder so inscribed: correspondence and papers *re* patenting of drug ACTH, 1950.

There was discussion as to whether an international body might be established to hold patents in new drugs to prevent one company or country acquiring a monopoly.

Scientific and Cultural History of Mankind

From the outset UNESCO had among its tasks the study of worldwide cultural and scientific history. A committee was established, with Needham as a member, to formulate proposals. These were submitted to the UNESCO General Conference at Beirut in 1948. The project was approved and a drafting 'Committee of Experts' established to prepare the plan for the project. Needham was a member. It met to draw up a report, 12-17 December 1949.

At the fifth session of the General Conference in Florence 1950, an International Commission was set up to prepare and oversee the project. Needham was a Corresponding Member of this Commission.

- D.161 1948. Includes 'Notes on the scientific and cultural history of mankind' by J.S. Huxley, May; papers *re* approval of project at the General Conference.

- D.162 1949 August. 'Rapport sur l'histoire scientifique et culturelle de l'humanité' by M.O. de Almeida, 35pp duplicated typescript.

- D.163 1949 December (1). Papers from meeting of drafting committee. Includes Needham's manuscript notes on proceedings and typescript plan of the project taken from Needham's notes, with manuscript annotation by Huxley.

- D.164 1949 December (2). Correspondence arising.

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- D.165 1950 January. Correspondence and papers *re* report of the Committee of Experts. Includes draft, Needham's and Huxley's comments and copy of final report.
- D.166, D.167 1950 January - March. Papers *re* UK response to report of the Committee of Experts. 2 folders.
- The report was considered at the meeting on 12 January 1950 of the National Co-operating Body for Philosophy and Humanistic Studies of the UK National Commission for UNESCO. It established, jointly with the British Committee on Cooperation with UNESCO in the Natural Sciences, a Special Committee on the Unesco Project for a Scientific and Cultural History of Mankind to prepare the UK response to the report of the Committee of Experts. It met on 13 March (see D.349).
- D.166 Meeting of the Co-operating Body, 12 January.
- D.167 Meeting of the Special Committee, 13 March.
- D.168 1950 February - May. Includes 'the final form of the "Report on the project for a scientific and cultural history of mankind" as it is presented to the 5th session of the Unesco General Conference', sent to Needham 24 May.
- D.169 1950 July - September. Correspondence and papers *re* membership of the International Commission.
- A small committee was established, with Needham as a member, to consider nominations for the Commission. It met on 14 October.
- D.170 1950 October - December. Correspondence and papers *re* meeting of the committee to consider the membership of the International Commission, and first meeting of Commission.
- D.171 1951 January - April. Includes report from first meeting of the Commission, and invitation to Needham to become a Corresponding Member of the Commission (accepted).

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- D.172 1951 May - November. Includes first annual report of the Chairman of the Commission.
- D.173 1952 January, February. Principally Commission papers.
- D.174 1952 March - October. Commission papers. Includes News Bulletins I and II on the progress of the project.
- D.175 1953-1955. Chiefly *re* visit to Cambridge by Professor L. Petech to discuss Needham's work on the history of science in China for use in the project.
- D.176 1962, 1963. Chiefly *re* publication of the first volume of the Scientific and Cultural History of Mankind; *Prehistory and the Beginnings of Civilisation* by J. Hawkes and L. Woolley.

Information and publicity literature

D.177-D.180 Press-releases and news-sheets

D.181-D.186 Printed material

Press-releases and news-sheets

- D.177 UNESCO Newsletter no. 47, December 1947; press-releases 1949-1952 (not a complete sequence) and nd.
- D.178 'UNESCO World Review', nos. 1, 4 and 6, 1949.
- D.179 'News from UNESCO' bulletins, May 1949.
- D.180 'National Commissions Newsletter', nos. 6-8, 1949.

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Printed material

- D.181 Act of establishment of UNESCO, 1945; Constitution, 1945; 'UNESCO Its purpose and its philosophy' by J.S. Huxley, 1946.
- D.182 'La France et l'U.N.E.S.C.O.', 1946; brochure of 'Exposition scientifique internationale', 1946.
- D.183 ' "The defenses of peace" Documents relating to UNESCO', 1946; 'Introduction to Unesco', 1947.
- D.184 Report of Director General for 1947; programme of activities for 1948.
- D.185 Articles *re* UNESCO. Includes 'Science in UNESCO' by B.J. Bok, *Scientific Monthly* **63** (1946); United Nations Educational, Scientific and Cultural Organization', *Science and Culture* **12** (1946-47); and typescript extracts from articles about UNESCO sent to the editor of *Nature* by Needham, 1951.
- D.186 Miscellaneous printed material and press-cuttings.

Miscellaneous

- D.187, D.188 Lists of UNESCO documents, February 1947 - February 1948. 2 folders.
- D.189-D.197 Miscellaneous UNESCO papers, 1947-1954.
- D.189, D.190 1947. 2 folders.

Includes at D.190 September 1947 issue of 'Mercury', UNESCO staff newsletter, annotated 'Lu Gwei-Djen' and recording her arrival at UNESCO in Paris to advise on establishment of Far East Field Science Cooperation Office.

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- D.191-D.193 1948. 3 folders.
- D.194, D.195 1949. 2 folders.
- D.196 1950, 1951.
- D.197 1953, 1954.
- D.198 Lists of names and addresses of experts. Includes 78pp typescript list of contacts in subjects from 'Agricultural chemistry' to 'Zoology'.
- D.199 Duplicated typescript sheets on aspects of evolution. Nd. In French.
- D.200 Correspondence and papers *re* expenses, 1947-1948.

NATURAL SCIENCES SECTION

- D.201-D.237 General papers
- D.238-D.257 Committees
- D.258-D.267 International Institute for the Hylean Amazon
- D.268, D.269 International Institute for Arid Zones
- D.270-D.300 Support for international science
- D.301-D.316 National Research Council Committee on UNESCO

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General papers

Preparatory Commission Natural Science Committee

D.201-D.204 Duplicated typescript memoranda and papers for the Preparatory Commission Natural Science Committee, 1946. 4 folders.

The Preparatory Commission Natural Sciences Committee drew up the functions and role of the Natural Sciences Section.

D.205-D.209 'Sci & Unesco'. Contents of Needham's folder so inscribed divided into five for ease of reference: material *re* Preparatory Commission booklet 'Science and UNESCO' defining the 'Tasks and Functions of the Secretariat's Division of Natural Sciences'.

The booklet was drafted by Needham.

D.205-D.207 Typescript rough draft. 3 folders.

D.208 Proof copy with typescript additions.

D.209 Copy of booklet.

Natural Sciences Section

D.210 'Bibliography of Official Documents of Natural Sciences Section' covering May 1946 - April 1948.

D.211 'Natural Sciences Section Filing Handlist, 17 November 1947. Annotated by Needham.

D.212 'Natural Sciences Section Filing Handlist, 19 February 1948. Annotated by Needham.

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- D.213-D.228 Duplicated typescript memoranda and papers, November 1946 - September 1951. 16 folders.
- The great bulk of these papers form a consecutively numbered sequence of general Natural Science Section papers. This arrangement is followed in the organisation of the material, which is not necessarily in a strict chronological sequence.
- D.229-D.231 Natural Sciences 'Occasional Papers'.
- D.229 No. 1 'Scientific research and scientific institutes in India'; no. 3 'Contemporary development of the mathematical and physical sciences in Mexico'; no. 4 'The development of science in Brazil in recent years'.
- D.230 No. 5 'Government science in South Africa'; no. 6 'L'activitie scientifique dans les Pays-Bas'; no. 7 'La mission du Conseil National des Recherches de Tchecoslovaquie' and 'Chemical science in Czechoslovakia'.
- D.231 No. 8 'The conditions of science in Egypt'; no. 10 'Les recherches biologiques en Hongrie 1946-47'; no. 11 'Institute for the Science of Science [Poland]'; no. 16 'Organization of scientific research in France'.
- D.232-D.237 'FSCO booklet'. Contents of Needham's folder so inscribed divided into six for ease of reference: correspondence and papers *re* editing by Needham of 'Science Liaison', a booklet drafted by Lu Gwei-Djen describing the work of the Field Science Cooperation Offices of UNESCO.
- D.232 Contract with UNESCO to edit the booklet; correspondence with Lu and C.H. Dobinson; etc.
- D.233 Draft preface by Needham, 2pp typescript; list of captions; text for cover of booklet; manuscript notes.
- D.234 Typescript draft by Lu, 24pp + list of FSCOs.
- D.235 Typescript drafts of appendices.

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- D.236 Proof copy.
- D.237 Published copy of booklet.

Committees and conferences

Duplicated typescript papers for committees and other bodies of the Section of Natural Sciences, and *re* conferences supported by the Section, not circulated as general Section papers.

- D.238-D.242 Permanent Council for the Coordination of International Congresses of Medical Sciences
- D.243, D.244 Committee for Conservation and Utilisation of Resources
- D.245-D.248 Committee on the Popularisation of Science and its Social Implications
- D.249, D.250 Committee on Scientific Abstracting
- D.251 Interim Coordinating Committee on Medical and Biological Abstracting
- D.252, D.253 International Conference on High Altitude Research Stations
- D.254 Latin American Conference of Scientific Experts
- D.255 Group Discussions on the Social Implications of Science
- D.256, D.257 Committee for Engineering Sciences

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- D.238-D.242 Permanent Council for the Coordination of International Congresses of Medical Sciences. 1947-1950. 5 folders.
- The Council was formed by the Medical Sciences Subsection in collaboration with the World Health Organisation. An organising committee was formed and first met in April 1948. The Council held its inaugural assembly in April 1949.
- D.243, D.244 Committee for Conservation and Utilisation of Resources. 1948. 2 folders.
- At D.244 is the final report by J.G. Crowther. March 1948.
- D.245-D.248 Committee on the Popularisation of Science and its Social Implications. 1948-1949. 4 folders.
- Needham chaired this Committee in 1948.
- D.249, D.250 Committee on Scientific Abstracting. 1948-1950. 2 folders.
- D.251 Interim Coordinating Committee on Medical and Biological Abstracting. 1948, 1950.
- D.252, D.253 International Conference on High Altitude Research Stations. 1948. 2 folders.
- D.254 Latin American Conference of Scientific Experts. 1948.
- D.255 Group Discussions on the Social Implications of Science. 1949.
- D.256, D.257 Committee for Engineering Sciences. 1949-1950. 2 folders.

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International Institute for the Hylean Amazon (IIHA)

At the first session of the UNESCO General Conference in 1946 plans were laid for the establishment of a research institute to study the zoological, botanical, geological, anthropological, social and other aspects of the Amazon basin region. The Institute was formally established in May 1948 with the setting up of an interim commission. E.J.H. Corner was the Executive Secretary.

- D.258 'Note on the Proposed International Institute of Hylea', 10 December 1946; 'Report on the Conference for the Establishment of the International Institute of the Hylean Amazon, held at Iquitos, Peru, on the 30th April - 10th May, 1948'.
- D.259-D.261 Duplicated typescript papers of Natural Sciences Section dealing with the Institute, 1948. Chiefly papers from the establishing conference and interim commission. 3 folders.
- D.262-D.267 'IIHA'. Contents of Needham's folder so inscribed divided into six for ease of reference: duplicated typescript papers of interim commission; brief correspondence. At D.266 is draft programme of the Institute as prepared by the interim commission.

International Institute of the Arid Zone (IIAZ)

The establishment of the IIAZ was proposed at the third session of the General Conference in 1948. After consideration of the proposals during 1949, an interim commission was established in 1950 and the IIAZ began work in 1951.

- D.268 Papers on the proposed IIAZ, 1949.
- D.269 Report of first meeting of IIAZ advisory committee, April 1951; offprint from *Nature*, 5 January 1952, describing the work of the Institute.

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Support for international science

One of the reasons that Needham tried to introduce the 'S' into UNESCO was to support existing structures of international scientific cooperation, such as the international scientific unions and their umbrella body, the International Council of Scientific Unions (ICSU).

The material relates to Natural Sciences Section relations with individual international science bodies, including proposals to form new international unions affiliated to ICSU. At D.300 is a little general material on UNESCO relations with non-governmental international scientific organisations.

D.270-D.279

International Council of Scientific Unions.

Chiefly duplicated typescript papers.

D.270-D.272

ICSU executive committee papers, 1947. 3 folders.

D.273-D.277

ICSU Monthly Bulletins 1-32, September 1947 - May 1951. Not a complete sequence. 5 folders.

D.278

Correspondence *re* questionnaire on international science cooperation for peace, circulated by ICSU's Committee on Science and its Social Relations, 1948.

D.279

'Reports from the International Council of Scientific Unions and its constituent organizations on their activities for which UNESCO allocated grants-in-aid in 1949'.

D.280

International Association of Microbiologists.

Papers 1949, 1951.

International Committee for Bird Protection.

Memorandum from J.S. Huxley, 1949.

International committee on anatomical nomenclature.

Letter *re* possible formation of international committee, 1950.

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- D.281 International Council for the Exploration of the Sea.
Papers, 1946, 1949.
- D.282 International Federation of Culture Collections.
Annual reports for 1947 and 1948.
- D.283 International Hydrographic Bureau.
Statutes; report of activities 1947.
- D.284 International Mathematical Union.
Correspondence and papers *re* proposed International Union, 1947-1948.
- International Meteorological Organisation.
Letter only, 1949.
- International Organisation for Standardisation.
Information, 1949.
- D.285, D.286 International Union of Biochemistry.
Correspondence and papers *re* discussions on formation of proposed International Union at the first International Congress of Biochemistry, Cambridge, 19-25 August 1949.
- D.285 Papers for meeting on 21 August of international committee of the Congress. Needham was a UNESCO observer at the meeting, at which the proposals for the Union were discussed.
- D.286 Correspondence arising with F. Dickens, Joint Honorary Secretary of the Congress, September - November 1949.

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- D.287 International Union of Biological Sciences.
Miscellaneous correspondence, 1948.
- D.288 International Union of Geology and Palaeontology.
Papers *re* discussions on formation of proposed International Union at the 18th International Geological Congress, London, August 1948. Needham was a UNESCO observer at meetings at which this proposal was discussed.
Material includes Needham's 7pp typescript report.
- D.289-D.295 International Union of Nutritional Sciences (IUNS).
Principally duplicated typescript papers of the Provisional Committee for forming an International Union of Nutritional Sciences, 1948-1949, and of the IUNS itself, 1949-1960. It is likely that many of the later papers are those of Lu Gwei-Djen who served as UNESCO representative on the IUNS Committee.
- D.289 1948. Chiefly *re* meeting of Provisional Committee, London, 10-12 June. Needham was an unofficial UNESCO observer.
- D.290 1949. Chiefly *re* application for membership of ICSU.
- D.291 1950. Chiefly *re* application for affiliation with ICSU.
- D.292 1951. Affiliation.
- D.293 1952.
- D.294 1954.
- D.295 1957, 1960.

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- D.296-D.298 International Union for the Protection of Nature.
- Papers for Conference for the Establishment of the International Union for the Protection of Nature, Fontainebleau, France, 30 September - 7 October 1948. 3 folders.
- D.299 International Union of the Philosophy of Science.
- Letter only 1948.
- International Union of Pure and Applied Chemistry.
- Papers 1949, 1950.
- D.300 General papers *re* UNESCO relations with non-governmental international scientific bodies, 1950-1952.

National Research Council Committee on UNESCO

The US National Research Council established the Committee on UNESCO, under the auspices of its Division of International Relations, in April 1947. It liaised with the Natural Sciences Section of UNESCO. Needham received memoranda and papers from its Chairman, B.J. Bok.

- D.301, D.302 Papers of Committee meetings, January 1948 - June 1949. 2 folders.
- D.303-D.313 Memoranda and other papers circulated to Committee members by the Chairman, April 1948 - July 1950. 11 folders. Not a complete sequence.
- These memoranda report on developments within the Natural Sciences Section.
- D.314-D.316 'Science in UNESCO' bulletin nos. 7 - 13, 1948 - 1950. 3 folders.
- The bulletins were issued by the Committee to inform the American public of the work of the Natural Sciences Section.

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UNITED NATIONS RESEARCH LABORATORIES

The question of the establishment and administration of international research laboratories came under the auspices of the United Nations Economic and Social Council rather than UNESCO, as it was felt to have implications beyond the scientific or cultural spheres. The material includes papers of the Economic and Social Council and of the Committee of Scientific Experts on International Research Laboratories. This Committee, on which Needham served, met in August 1949 to consider the feasibility of setting up UN-run research institutes, independent of national governments.

- D.317-D.322 'International scientific research institutes (UN cttee) notes and correspondence'. Contents of Needham's folder so inscribed divided into six for ease of reference. 1945-1952.
- D.317 Offprints of articles *re* international research institutes, 1945, 1948; correspondence 1948, chiefly *re* UNESCO interest.
- D.318 Correspondence and papers, March - July 1949, chiefly *re* meeting of Committee of Experts, Paris, August.

Needham accepted an invitation to join the Committee.
- D.319 Papers, August, *re* Committee of Experts meeting. Includes Needham's manuscript notes and draft report of the meeting.
- D.320 Correspondence and papers, September - December 1949.
- D.321 Correspondence and papers, 1950. Includes material *re* possible international meteorological centre.
- D.322 Papers *re* establishment of international computation centre, 1952.
- D.323, D.324 Background papers of Economic and Social Council *re* international research laboratories, 1946. Includes at D.323 draft resolution submitted by French delegation calling for the establishment of such laboratories. 2 folders.

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- D.325-D.329 'Report of the Secretary General on Establishing United Nations Research Laboratories', 23 January 1948. Annotated by Needham. 5 folders.
- D.330, D.331 Papers for meetings of Economic and Social Council 1948 at which the Report was discussed. 2 folders.
- D.332 UN report on *The Question of Establishing United Nations Research Laboratories* (New York, December 1948), annotated by Needham.
- D.333-D.336 Papers for meetings of Committee of Scientific Experts on International Research Laboratories, Paris, August 1949. 4 folders.
- D.337, D.338 Report of the Committee of Experts, May 1950. 2 folders.
The report supported the establishment of international research institutes.
- D.339 'Second report by the Secretary-General on the question of establishing United Nations Research Laboratories', June 1950.

BRITISH COMMITTEE FOR CO-OPERATION WITH UNESCO IN THE NATURAL SCIENCES

Needham was appointed a Royal Society representative on the British Committee for Co-operation with UNESCO in the Natural Sciences in May 1947. He served to 1952.

The committee was one of a number of co-operating bodies which formed the UK National Commission for UNESCO. The material includes papers for meetings of the Committee, general papers of the UK National Commission for UNESCO and papers circulated to all the national co-operating bodies. There is also correspondence *re* issues raised at meetings.

- D.340 1947. Correspondence *re* invitation to join the Committee; UK representation at the UNESCO General Conference.

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- D.341 1948 (1). Committee meeting, 19 May.
- D.342 1948 (2). Chiefly correspondence *re* reform of UNESCO.
- D.343 1948 (3). Committee meeting, 19 October.
- D.344 1948 (4).
- D.345 1949 (1). Letter *re* meeting of Co-operating Bodies, 22 February; Committee meeting, 24 May.
- D.346 1949 (2).
- D.347 1949 (3). Includes correspondence *re* UNESCO programme and budget for 1950.
- D.348 1950 (1). Committee meeting, 8 March.
- D.349 1950 (2). Meeting and report of special committee on the UNESCO Project for a Scientific and Cultural History of Mankind, 13 March. See D.166, D.167 above.
- D.350 1950 (3). Report of the United Kingdom to UNESCO for 1949.
- D.351 1950 (4). Committee meeting, 23 October.
- D.352 1951 (1). Meeting of National Commission, 4 April.
- D.353 1951 (2). Committee meeting, 25 April.

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- D.354 1951 (3). Report of the United Kingdom to UNESCO for 1950.
- D.355 1951 (4). Committee meeting, 16 November.
- D.356 1952.
- D.357, D.358 Miscellaneous material found with preceding British Committee papers.
- D.357 Duplicated typescript information sheets on geology, pharmacy and chemistry in USA, 1949.
- D.358 British Commonwealth Scientific Office (North America) report on 'The European branches of the Battelle Memorial Institute', December 1953.
- Annual Report of the United Kingdom Scientific Research Organization in Germany, 8 April 1954.

FOOD AND AGRICULTURE ORGANISATION OF THE UNITED NATIONS

- D.359-D.365 Press-releases and other literature *re* work of the FAO, June - November 1949, sent to Needham for information. 7 folders.