# CONTEMPORARY SCIENTIFIC ARCHIVES CENTRE

under the guidance of the Royal Society's

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

Catalogue of the papers of

FREDERICK ALEXANDER LINDEMANN, C.H., F.R.S.

VISCOUNT CHERWELL OF OXFORD

(1886 - 1957)

Deposited in the Library of Nuffield College, Oxford

VO LUME I

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Compiled by: Jeannine Alton

Julia Latham-Jackson

1981

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### GENERAL INTRODUCTION

#### PROVENANCE AND HISTORY OF THE COLLECTION

The history of the collection is long, complex and in many respects uncertain. The following dates and stages may be distinguished.

In 1945 Cherwell took to Oxford his wartime papers, which are referred to in correspondence of that year with T. Wilson (see F.85). The files were given some listing on receipt at the Clarendon Laboratory by two members of Cherwell's staff (J.R. Parkinson and N.B. Giles), but no incontrovertible dated evidence remains of that ordering.

Cherwell frequently consulted the material at the request of other historians, in particular Churchill, to verify specific matters of the history of the war (see, inter alia, D.117, F.87, G.348, G.437-440, G.550, J.97, K.69, K.241) but always refused to write his own account of his career or work.

In 1948 typescript copies were made from the originals of some of Cherwell's minutes to Churchill for 1939 - 42; this was arranged with T. Wilson and is also referred to in his correspondence with Cherwell in item F.85. The copies themselves appear at F.217 - F.228.

In 1957 Cherwell died, a bachelor, in his rooms at Christ Church, Oxford.

In his will he left his papers to his elder brother, Brigadier Charles Lindemann, with the proviso that, in the event of his brother's predeceasing him, he would like Sir Donald MacDougall to have the papers. At the time of Cherwell's death, Brigadier Lindemann was in the U.S. and in poor health, and in 1961 the papers were deposited by Sir Donald MacDougall in the Library of Nuffield College, Oxford, of which he was a Fellow. Before this they had been first at Christ Church and from 1958 - 61 in the care of Lord Birkenhead, author of the official life of Cherwell, The Prof in two worlds (Collins 1961). When Charles Lindemann died in 1970, the English-Speaking Union was his residuary legatee; the Union has retained the copyright of Cherwell's personal papers, but has left the papers with Nuffield College on indefinite loan.

Before transfer from Christ Church to Lord Birkenhead the papers were examined by P.J. Searby who had been Private Secretary to Lord Cherwell as Paymaster General

1952 - 53 and had exercised oversight of the papers subsequently issued to Lord Cherwell as Part-time Member of the U.K. Atomic Energy Authority from 1954 until his death in 1957. While no formal review of the papers was undertaken at this time, some material of particular sensitivity was removed (see H.174) to official Archives and partial Minute Sheets were made for a small number of the correspondence files. A further examination also covering some additional papers was carried out in about 1960 in conjunction with Lord Birkenhead's Research Assistant, Miss Otto; to this latter period would appear to belong the numerical sequences written in very large blue pencil characters on some of the manuscripts.

In 1961 Birkenhead published the official life of Cherwell, for which he had had access to the papers, referring to them in the footnotes to his book as 'Cherwell Archives'. He and his research assistants made various notes on aspects of Cherwell's life and work (see A.30, A.128, F.22) and brief biographical outlines of some of his correspondents, several of which remain in the relevant folders.

In 1965 - 66 a further major sorting and review took place, by J.M. Pye,
Official Archivist, United Kingdom Atomic Energy Authority, advised by P.J. Searby,
and an outline list was drawn up. The main principle adopted was a division into
'Official' and 'Personal', primarily for considerations of security for government papers
included in Cherwell's material. Thus the 'Official' papers (OFF. in the outline list)
were deemed to be those relating to Cherwell's service in the Churchill wartime and
postwar administrations, and the 'Personal' files (PERS. in the outline list) would be
concerned with Cherwell's scientific, academic and social life. This distinction,
implemented on broad lines and on an essentially chronological basis, was never
absolute. OFF. and PERS. files overlapped in subject-matter, correspondent, origin
or simply the taking of multiple carbon copies. PERS. files might contain political
or official material, while OFF. files could include minor social or personal items
which happened to bear a wartime date.

A certain degree of 'weeding' also took place in the course of this review; see A.17, E.22, F.2 for notes of material destroyed.

Since the 1965 - 66 review, the papers (chiefly those in the OFF. sections) have been consulted by historians of science, biographers of Churchill, students of the

Second World War, and others. Several of these appear to have left notes or markings on the manuscripts, and may have further disturbed their order. In addition, the material has been reviewed periodically by the Cabinet Office in order to re- or de-classify government papers as they became available to readers under the 30-year rule or other appropriate regulation. The latest of these reviews was in 1980, and it has largely eliminated the distinction between OFF. and PERS. files imposed in 1965.

This last consideration, coupled with the facts that Cherwell's original ordering of his papers could no longer be traced, and that the existing files were of unmanageable bulk and disparate content, prompted the decision to undertake a fundamental re-sorting of the whole collection. The papers are now presented as shown in the List of Contents.

In order to help researchers who had already consulted the papers and made references on the basis of the 1965 - 66 listing, and at the request of Nuffield College, a Conspectus of file-numbers has been compiled for all papers assigned to the OFF. files (see the note on the Conspectus below). The PERS. files are not included in the Conspectus, mainly because fewer readers to date have wished to consult those sections of the collection. It is hoped that a reading of the catalogue entries (now much more comprehensive) and index of correspondents will enable users to identify such material and indeed to locate other papers on the same topic which they had not previously been able to trace.

Many of the documents bear an array of annotations, identifications, suggestions for date or recipient, numerical sequences, etc. in black, red or blue pencil, ink or ball-point pen. These have not been erased, but they bear no relation to the present arrangement. The only relevant indications now on the papers are the OFF. numbers, in pencil at the head of the sheet where required.

# DESCRIPTION OF THE COLLECTION

Several biographical accounts of Cherwell have already been published and are mentioned here in chronological order. The Memoir by G.P. Thomson (Biographical Memoirs of Fellows of the Royal Society, 4, 1958) concentrates primarily on Cherwell's

scientific career in peace and war, though as one of Cherwell's oldest personal friends (indeed, almost the only remaining early colleague who had maintained continuous friendly relations with him) he was also able to include some biographical material.

R.F. Harrod's <u>The Prof</u> (Macmillan 1959), is subtitled 'A Personal memoir of Lord Cherwell' and described by the author as 'drawing on my own recollections only'. As a Student of Christ Church, 1924 - 67, Harrod had many contacts with Cherwell, and his book contributes many anecdotes of Cherwell's personality, and his part in social and political events from the Thirties onwards. Harrod was especially closely associated with Cherwell during the latter's Conservative political campaigns of 1935 - 36, and with the Prime Minister's Statistical Branch from 1 January 1940 until early 1942.

Birkenhead's <u>The Prof in two worlds</u> (Collins 1961), is the official life, drawing on manuscript sources, recollections by family, colleagues, politicians and others. It is the fullest account extant, and has been drawn upon, and quoted, from time to time in compiling this catalogue.

With these accounts in print, it is assumed that the basic facts of Cherwell's career are known and need not be rehearsed. The following paragraphs attempt only to explain the present arrangement of the papers and to indicate how and where the manuscript collection may confirm, complement or modify the accepted view. In addition, there are introductory notes to many of the Sections, sub-sections and individual entries of the catalogue which aim to furnish explanatory information.

Sections A and K of the collection deal mainly with Cherwell's personal and social life. Of interest are his pilot's logbooks (A.11, A.12) documenting his tuition as a pilot at Netheravon in 1916. It is characteristic that there are, mysteriously, two of these and that they should give varying information. The first (A.11) records instruction starting on 9 September 1916 with a 'First Solo' on 16th and two other solo flights on 16th and 17th, followed by another 'First Solo' on 22nd. The other log (A.12) covers only eight days (20–28 September 1916) and also records a 'First Solo' on 22nd. This entry has been ringed by a previous researcher and seems to have been taken hitherto as the correct date of Cherwell's first solo flight. Section A also contains family correspondence showing Cherwell's close relations with his father,

A.F. Lindemann, and his elder brother, C.L. Lindemann, and material relating to some of his own idiosyncrasies of diet and health, lordly modes of travel, and the considerable wealth which underpinned his independence of mind. There is also evidence of his generosity to his personal servants, to staff and colleagues (and their families) at the Clarendon Laboratory, and the many discreet, almost surreptitious, benefactions he dispensed. Section K confirms this by the numerous letters of thanks for Christmas, birthday, 'non-birthday' or wedding presents received not only from Cherwell's own friends but from their young families. It is greatly to be regretted that very few of Cherwell's own letters survive in this Section, presumably because they were handwritten and no carbon copies were kept.

Section B is primarily concerned with Cherwell at Oxford, as Head of the Clarendon Laboratory, Fellow of Wadham, resident at Christ Church and involved in various aspects and controversies of the University. It documents his struggles to obtain equipment, posts, funding and building for the laboratory, his initiative in identifying and encouraging Jewish scientists wishing or obliged to leave Germany when the Nazis came to power, and his consequent negotiations with the university, industrialists and politicians to provide research funds, space and equipment. The resulting excellence of the Clarendon Laboratory (notably in low temperature research) is well known. Cherwell also helped to make it possible for the young R.V. Jones to carry out there his early infrared research (see the correspondence in D.123 - D.125).

Cherwell's skill as a polemicist is shown in different fields and with different degrees of credit, in his rearguard action over premises in Keble Road, Oxford, originally leased for a research project, and in his contributions to the public controversy over the draconian proposal to solve Oxford's traffic problems by a road through Christ Church Meadow. Section J supplies further illustration of Cherwell's enjoyment of in-fighting in prewar Oxford Conservative politics.

As a counterbalance to this almost too well-known side of his character, Section B contains (B.126) a few drafts for speeches given in his later more mellow years at social gatherings at Christ Church. Here, on a relatively small stage and with congenial

listeners, his wit - often recalled by friends but not otherwise recorded - is well displayed, steering a delicate course between raillery and mockery, choosing appropriate anecdotes and references and achieving with grace the difficult balance required by such intimate, semi-domestic occasions.

Sections C and D, together with parts of Section E, relate to Cherwell as a scientist. They show him in several lights. His début in research could hardly have been more auspicious, when he was chosen by Nernst in 1908 for the team in Berlin working on specific heat and low temperatures. He published collaborative papers with Nernst and became a lifelong friend of him and his family. To this time also belongs his affectionate, and similarly lifelong, friendship with Einstein; many of Cherwell's notes, lectures and articles are concerned with explaining and gaining acceptance of Einstein's theories among the general educated public. This period of 'pure' research was ended by the outbreak of war in 1914; later, Cherwell worked on aspects of meteorology and astronomy, sometimes in collaboration with his father, and his early brilliance in research was recognised by his election to the Chair of Experimental Philosophy at Oxford in 1919, and to the Fellowship of the Royal Society in 1920. Many of the surviving drafts and papers of these early years are in German.

Another aspect shows Cherwell as an ingenious inventor and patenter of contrivances and designs. Many of these arose from his work at Farnborough during the 1914-18 war, or from private research in the laboratory of the Lindemann family home at Sidmouth.

The scientific correspondence (Section D) reflects in its patchiness the ambiguous position Cherwell occupied in the eyes of some of his scientific colleagues. Some felt that he had ceased to do productive research after about 1924, others that he was damagingly preoccupied with rank, high society and political manoeuvring. His declared support for the Conservative party is also likely to have contributed to his isolation from a considerable proportion of the scientific community during the Thirties. There remain, however, interesting exchanges with W.F. Aston, G.I. Taylor, W.H. Nernst, J.L. Tuck and others; the material in D.53 - D.69, while concerned mainly with visits and lectures by Einstein, testifies to the mutual respect and affection between him and Cherwell.

Section E includes some additional scientific writings, of a more general and popular kind than those in Section C, but more importantly shows Cherwell as an embattled defender of the importance to the life of the community of science, scientific research, and the scientific habit of mind. He campaigned endlessly for more money and more respect for the scientist – in early years somewhat negatively by decrying what seemed the opposed values of a 'classical' education, and in later life more positively by pressing for the expansion of technological education through new universities or institutions. His last piece of work (E.100) was devoted to this subject. See also G.526 – G.533, H.236 – H.253 for Cherwell's wartime activities in this field.

It is, however, for his friendship with Churchill and its political consequences that Cherwell is most widely known. Begun in 1921, the friendship continued with no diminution of regard on either side, and despite staggering disparities of temperament and habit, until Cherwell's death. The episode of the aged Churchill's insistence on attending the funeral service and ceremony in 1957 has been referred to in the published biographies of Cherwell.

This friendship permeated much of Cherwell's life, and its documentation is in consequence diffused through many Sections of the collection. The correspondence in Section K shows the personal aspect of the relationship, Churchill's use of Cherwell as a source of information and advice, and Cherwell's acceptance by the whole Churchill clan as a warm family friend. The political relations between the two begin and end in Section J, firstly in the 1920s and 1930s, and later from 1945 to 1953 when Cherwell was an adviser to Churchill's Consultative Committee in opposition, or in office as Paymaster-General in his administrations. Between these comes the 1939 – 45 Second World War which is very fully documented in Sections F, G and H.

These three Sections are best considered as a unit. Apart from some preliminary material (F.1 - F.39) concerned with increasing anxiety during the interwar years about the problem of air defence in war, and the various solutions proposed (including papers on the 'Tizard Committee'), all three relate to the work of the Statistical Branch, later known as the Statistical Section. This was formed at Churchill's request to assemble and assimilate statistics and data and to present them to him in accessible,

rapidly intelligible form, originally in his capacity as First Lord of the Admiralty and then as Prime Minister. A minute detailing the functions of the organisation is quoted in the Introduction to Section F and included at F.41.

Broadly speaking, Section F contains the material presented by the Statistical Section to Churchill in its final form – as a graph, chart or diagram, and/or a personal minute from Cherwell to Churchill, sometimes accompanied by a draft minute or recommendation to be sent by Churchill to the appropriate minister. These documents provide an interesting picture of the working relationship between Cherwell and Churchill throughout the period 1939 – 45.

The charts or minutes were the distillation of the wide-ranging activity of the Statistical Section and rested on background research through committee or departmental papers, official correspondence, information from scientific colleagues, etc. This background material, which provides fuller information than the summary minutes, occupies Sections G (scientific and military topics) and H (economic topics). The separate Introductions to all three Sections, and to many of their sub-sections, explain in more detail the nature and interest of the material, which enables the advice tendered by Cherwell and the Statistical Section - frequently the target of adverse criticism both at the time and subsequently - to be substantiated or placed in perspective by its contemporary research and thinking.

It is unfortunate that so few of Cherwell's own letters survive in any Section of the collection. Incoming letters in Section K make clear how successful he could be in society. He was often derided for collecting Duchesses, and may well have done so initially; but they for their part seem to have been reluctant to let him go.

#### BY ANY OTHER NAME

F.A. Lindemann took the title of Cherwell of Oxford when he was created Baron in 1941. It was under this name that he became a national figure as adviser and minister to Churchill, though his scientific colleagues continued to think of him as Lindemann. Despite his love and respect for his father and elder brother among his

immediate family, it is likely that he was not reluctant to replace a name with Germanic resonances (and which had often been the subject of wounding reflections and unfounded gossip) with a title expressing his identification with Oxford and his intense patriotism for Britain, particularly in time of war. In the narratives and entries of this catalogue he is referred to consistently as Cherwell, though both names appear on the reference title at the head of each page.

It was not, however, only his sumame which Cherwell appears to have found uncomfortable. More unaccountably, his two imperial forenames, Frederick Alexander, were also shunned, and he tended to sign letters with initials only. The family pet-name for him was 'Peach' and it is not surprising that only a very few close friends (such as the Egertons) ever learnt or ventured to write it, though Cherwell himself signed his early letters to his father in this way. Tizard, in the early days of their friendship, addressed him as 'Lindy', and Cherwell's much-loved elder brother Charles sometimes wrote to 'My dear Old Man', but Cherwell did not encourage intimacy; the name 'Prof', with or without the definite article and abbreviation mark, and variously spelt with single and double 'f', was hit upon apparently by Lady Eleanor Smith (see Birkenhead, The Prof in two worlds, pp.128-129) and seems in retrospect an inspired solution. It enabled him to hide his personality behind a function, yet conveyed in its abbreviated form an affectionate informality. At all events, it became his 'name' for personal and social purposes for the rest of his life.

Like Cherwell himself, many of the political and social figures who appear in his papers changed their names by succession to hereditary titles or by the award of honours. Some, such as H.R. Trevor-Roper, now Lord Dacre, have done so while the catalogue was in preparation. In such cases, names are given in the Index under both the patronymic and the title of honour, the reference numbers being listed under the name borne by the writer at the time when the correspondence (or the greater part of it) was conducted. Thus, F. Pakenham is listed under P with a cross-reference under Longford, Trevor-Roper under T cross-referenced under Dacre, D. Sandys under S cross-referenced under Duncan-Sandys, A. Lennox-Boyd under L cross-referenced under Boyd of Merton.

#### CONSPECTUS OF FILE-NUMBERS

As explained in the note above on the history and provenance of the collection, the Conspectus was compiled to assist readers and researchers who had already consulted and made references to Cherwell's papers on the basis of the 1965 - 66 outline list.

The Conspectus appears in Vol. III, pp.367-403 and relates the OFF. (= Official) numbers, which are listed in the left-hand column, to the present item-numbers which are listed on the right. The presence of an item-number indicates that the folder of that number in the present catalogue includes one or more pieces which had originally been in the OFF. file. Every document in question can be identified by the former OFF. number in pencil at the head.

Exact duplicates have been discarded in order to ease pressure on Tibrary space. When, as frequently happened, multiple copies were taken with the result that a letter or document might feature in one or more OFF. (and sometimes also PERS.) files, all the relevant OFF. numbers appear on the remaining paper. It will be seen that the contents of many of the OFF. files (e.g. OFF. 21.1, 38.1, 43.1) are now widely distributed; that is because they were often unmanageably large and (correctly) designated 'miscellaneous' or 'general correspondence'. Conversely, many of the present folders have been assembled from a variety of OFF. and PERS. files; examples of this are G.26, G.28 (on the size of the German Air Force), D.23, D.24 (correspondence with M. Born), D.194 (correspondence with A.P. Rowe), D.245, D.246 (correspondence with J.L. Tuck), K.40 (correspondence with Brabazon of Tara), K.186 (correspondence with I. Lubin). It is hoped that the smaller size and more rational arrangement of the present folders will make the material simpler to use.

#### INDEX OF CORRESPONDENTS

The Index includes the names of individuals, and of organisations and learned societies. Index numbers may refer to postal correspondence or to signed reports and memoranda exchanged with or forwarded to Cherwell. A reference number may therefore indicate a folder containing any or all of these types of material, particularly when they are in Sections F, G or H.

In cases where only Cherwell's carbon copy survives, the name of the correspondent is not listed here.

There is no subject-index. Lists of topics covered in specific sequences appear at G.152 - G.443, H.1 - H.66, H.208 - H.267.

#### **ACKNOWLEDGEMENTS**

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J.B. Alton

J. Latham-Jackson

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A.1-A.90	CAREER, APPOINTMENTS AND HONOURS
A.1	Grossherzogliches Realgymnasium zu Darmstadt. Report on Friedrich Lindemann, 1900.
A.2	Grossherzogliches Technische Hochschule Darmstadt.
	Reports on Friedrich Lindemann, Summer Semester 1905-Winter Semester 1907-08.
	See A.74, A.75 for correspondence re Jubilee reunion with classmates of Realgymnasium.
A.3	Königliche Friedrich-Willhelms-Universität zu Berlin.
	Record book of Cherwell's studies in physical chemistry, signed by Nernst. 1912-13.
	Recommendation for Cherwell by Nernst, recording work in his laboratory since 1908. 1 March 1914.
A.4	Election as Member, Société Française de Physique, February 1913.
	(Letter signed by M. de Broglie.)
A.5	Letter re Cherwell's entry for tennis singles tournament, Paris, May 1913.
A.6-A.8	Cherwell's visit to University of Chicago, June-September 1913.
A.6	Correspondence from R.A. Millikan <u>re</u> invitation and arrangements.
	Farewell telegram from de Broglie.
	Letter of introduction.
A.7	Letter of introduction from J.C. Grew (Counsellor, American Embassy, Berlin).
	Also included here is a letter from Grew, 1915, re Charles de Suppé and Nernst.
A.8	Correspondence re tennis and social engagements.
	Postcards sent to his father by Cherwell during visit.
A.9	Unidentified card, re Cherwell's plans. November 1913.
	Cherwell's National Registration card, as 'Scientific Investigator', issued at Sidmouth, 1915.

1936

### Personal and biographical

A.10-A.17 Royal Aircraft Factory (later Royal Aircraft Establishment), Farnborough, 1915-18.

Includes some later material to 1957 re Cherwell's work and interest in aeronautics, history of R.A.E., etc.

Some of Cherwell's papers and reports on aeronautics written during his service at Farnborough, appear at C.11-C.31. Others were destroyed during the review of his papers in 1965, see A.17 below.

- A.10 Correspondence; 1915-16, with M. O'Gorman (Superintendant, Royal Aircraft Factory) re Cherwell's appointment as temporary technical assistant at a salary of £3 per week, and his service there.
- A.11, A.12 Pilot's Flying Log Books (2), both in Cherwell's hand.
  - A.11 Entries run '9.1X' [1916] to '3.1. 1918' (N.B. This is an error for 1919).

Entries are officially endorsed to 24 January 1917, and include passenger names and details of tests carried out.

'First Solo' is entered on '16.IX. 9.05-9.10 a.m.' and this is endorsed. The following page also bears an entry 'First Solo' for '22.IX. 6.50-7.05 p.m.'

- A.12 Entries run '20.1X' to '28.1X' [1916] only. There are no official endorsements.
  - 'First Solo' is entered on '22.IX. 6.50-7.05 p.m.'
- A.13 Graduation Certificate, Royal Flying Corps, 25 October 1916.

  Letter from Capt. Cooper, 16 November [1916], who was one of Cherwell's flying instructors and who endorsed most of the 1916 entries in A.11.

Correspondence re R.A.F. Mess, Hucknall.

A.14 Correspondence re history of 'The War in the Air', by
Sir Walter Raleigh. 1919, 1921

Correspondence re Cherwell's 'spinning flight' during war. 1932

Correspondence on same subject with Official Air Historian. 1933

A.15	Copy of 'A Historical Summary of the Royal Aircraft Factory and its Antecedents', sent to Cherwell with request for photograph.	1946
A.16	2 draft letters to B. Bracken re spinning flight.	1953
	Invitation to 50th anniversary celebration of first powered flight.	1953
	Correspondence re portrait of M. O'Gorman.	1954
	Correspondence re Cherwell's request for copies of his R.A.E. papers.	1955
	Correspondence re spinning flight.	1957
A.17	Note of R.A.E. reports by Cherwell, destroyed during 1965 review of his papers, but available in the records of R.A.E. Farnborough.	
	See also E.19, E.20.	
A.18	Invitation to lecture on 'Practical Experiments in the Stability and Control of Aeroplanes', Royal Aeronautical Society.	1918
A.19	Note of Cherwell's book account, and of books and journa purchased at Dommes the Bookseller, Cologne.	ls 1919
A.20-A.23	Election as Professor of Experimental Philosophy, Oxford University.	1919
A.20	Autograph letter of application, miscellaneous lists of publications, printed testimonials from J.J. Thomson, A.A. Michelson, R.A. Millikan.	
A.21	Correspondence with referees and sponsors:	
	de Broglie (includes request for information on origins o Cherwell's family, to forestall possible reflectio cast upon it)	
	P. Langevin	
	A.A. Michelson	
	R.A. Millikan (and Cherwell's reply)	
	Rayleigh	
	J. J. Thomson	
	H.T. Tizard	

	- district and biographical	
A.22	Correspondence with Registrar, Oxford University, and Warden, Wadham Coilege, re election.	
	Arrangements for Cherwell's M.A. by Decree.	
A.23	Letters and telegrams of congratulation.	
A.24	Letters from Jeans and Fowler, offering to propose Cherwell for Fellowship of the Royal Society.	1919
	Letters of congratulation on election.	1920
A.25	Correspondence re formation of Board of Trade Fuel and Power Committee, and Cherwell's appointment to serve.	1926
	List of Members of Committee.	
	Also included here is ms. draft of Cherwell's letter to 'Dear P.M.' on the General Strike and coal negotiations.	
A.26	Correspondence re 'The Heights', Marlow.	1927-35
	Mainly re purchase of the property (for Cherwell's father) and installation of electricity.	
A.27	Election as Fellow, Royal Aeronautical Society.	1928
	Letter <u>re</u> Dinner at the Other Club.	1930
	Letter of thanks on termination of Cherwell's service on Advisory Council for Scientific and Industrial Research. Cherwell's reply stresses the importance of expenditure on scientific research.	1930
A.28	Letters of condolence received on the death of A.F. Lindemann (Cherwell's father).	1931
	Some include personal and biographical recollections.	
A.29	Letter proposing Cherwell as member of the Royal Institution.	1932
A.30	Letter from Cherwell to President, Oxford Union, re his family, in which he writes: 'I can state categorically that I am not a Jew and do not number any Jews amongst my ancestors'.	1936
	Included here is a 3 pp. note prepared for Birkenhead's biography of Cherwell, on 'German scientists', recording his activities in helping Jewish refugee scientists from	9

Germany.

A.41

## Personal and biographical

A.31	Letter from Vice-Chancellor asking Cherwell to represent Oxford at Rutherford's funeral.
A.32	Correspondence re proposed visit by Cherwell to Canada in September 1938, which he cancelled because of political situation.
	See also Cherwell's correspondence with his brother, A.96.
A.33	Correspondence re conferment of Hon. LL.D. at Aberdeen. 1940
A.34	Correspondence; June-July 1941, re Cherwell's financial position.
	Includes autograph draft reply by Churchill to question in the House, 17 June 1941, 'To ask the Prime Minister if he will state the duties and remuneration of Professor Lindeman' (sic), and related correspondence.
	Cherwell was raised to the peerage in the Birthday Honours and the question was withdrawn.
A.35-A.41	Conferment of Barony. 1941
A.35	Letter from Churchill, undated, announcing his intention of recommending Cherwell for Barony.
	Correspondence with supporters re introduction into House of Lords.
A.36	Correspondence with Charles Lindemann re crests and arms.
	The letters are addressed variously to 'My dear Baron', 'My dear F.A.' and 'My dear old man'; in his letter of 12 June, Charles Lindemann suggests the title 'Baron Christ of Church'.
	Includes examples of family seals.
A.37	Correspondence with Garter re Letters Patent, Arms, Crest, etc.
	Includes photocopy of letter, 1918, re Lorrain origin of Lindemann family.
A.38-A.41	Letters of congratulation, many referring to Cherwell's wartime work. 4 folders as follows:
A.38	A - B
A.39	C-L
A.40	M - P

R - W and unidentified.

A.42	Request for Cherwell's photograph for National Portrait Gallery.	1941
	Invitation to join Empire Parliamentary Association.	1941
A.43	Correspondence with Lord Chancellor re propriety of Cherwell's speaking in debates in House of Lords, while working as unpaid personal assistant to Prime Minister.	1942
A.44	Election as Member, National Geographic Society (Washington, D.C.).	1943
	Includes some earlier correspondence re Society.	1932
A.45-A.53	Appointment as Paymaster-General and Privy Councillor,	1943
A.45	Official notifications.	
A.46-A.52	Letters of congratulation. 7 folders as follows:	
A.46	A (Includes 3 epigrams by Andrade)	
A.47	B - C	
A.48	D - H	
A.49	I - L	
A.50	M - P	
A.51	Q - S	
A.52	T - W and unidentified	
A.53	Correspondence, 1945, re Cherwell's formal relinquishment of his office of Paymaster-General.	
A.54	Correspondence, 1945, re petrol allowance for Cherwell's duties as member of the Radio Board.	
A.55	Correspondence re portraits of Cherwell.	1946
	With War Artists Advisory Committee, and with artist, re portrait by Henry Carr.	
	With R.A.F. Colour Portrait Collection Committee.	

A.56

Correspondence with Churchill, 1950-52, re Cherwell's service in Churchill's administration.

Cherwell was reluctant to serve as a member of the Government, and would have preferred to help Churchill as a private advisor. Churchill, however, felt that his services were 'of special value' and obtained leave of absence for him from Oxford for 1951-52 and again 1952-53. In October 1953 he reluctantly accepted Cherwell's resignation (see A.68).

Includes copies of letters from Oxford University officials.

A.57-A.65

Letters and telegrams of congratulation on appointment as
Paymaster-General. 1951

Some of these include biographical or personal recollections, comments on the political situation, suggestions for action, etc. Some have Cherwell's reply attached.

9 folders as follows:

A.57 A

A.58 B - C

A.59 D

A.60 F-J

A.61 K-L

A.62 M-N

A.63 P-R

A.64 S-T

A.65 W

A.66

Miscellaneous invitations, 1951, to attend conferences, act as President, the Physical Society, and of the Science Masters' Association (all declined due to pressure of work), and re Cherwell's room at the House which he shared with Ismay.

	resonar and brograpmear	
A.67	Correspondence re 'Sidholme' (Cherwell's boyhood home at Sidmouth, Devon), which became a Methodist Guest House in 1931.	1952
	Correspondence re Conferment of Honorary Associateship, Manchester Municipal College of Technology.	1952
	Award of Messel Medal, Society of Chemical Industry,	1953
	See E.16 for Cherwell's speeches to the Society on the occasion of the conferment of the Medal.	
	Cherwell's copy of a reply on the function of Co-ordinating Ministers (Cherwell and Leathers), sent to Leathers for amusement.	1953
A.67A	Correspondence, 1953, re Summons to the Coronation of H.M. The Queen.	
A.68-A.73	Resignation from Cabinet, and appointment as Member of the Companions of Honour.	1953
A.68	Exchange of correspondence with the Prime Minister on resignation.	
	Includes autograph draft of Cherwell's letter to Churchill explaining his reluctance to accept a C.H.	
	(See Birkenhead: The Prof. in Two Worlds, p.316.)	
	Correspondence re appointment as C.H. is also included here.	
A.69-A.73	Letters of congratulation, regret at Cherwell's leaving the Cabinet, etc. Many of Cherwell's replies regret what he called his 'loss of amateur status'.	
	Several of the letters are from former students of the Clarendon Laboratory.	
	5 folders as follows:	
A.69	B-C	
A.70	D - H	
A.71	J - M	
A.72	P - R	
A.73	S - Z	

A.74, A.75	Correspondence with former classmates of Realgymansium, Darmstadt.	1953-56
	Mainly re arrangements for a Jubilee reunion in 1955 of the class of 1905 (Cherwell was unable to attend), and including news of former classmates.	
A.74	Correspondence with W.G. Schmidt, 1953-56.	
	Includes a letter 1949 from K. Münkler, another member of the class, who died before the proposed reunion.	
A.75	Correspondence with F. Sachs.	1954-56
A.76	Invitation to serve as President, Radio Industry Council (denied because of continuing involvement with atomic energy).	1954
A.77	Invitation (declined) to Associate Membership, American Institute of Management.	1955
A.78	Correspondence with Oxford University re Cherwell's resignation of his chair.	1955-56
	See also B.55-B.59.	
A.79	Correspondence with Censors, Christ Church, re Cherwell's retention of his rooms after his resignation of his chair. These were, as he explains here, and frequently elsewhere, his only home, which he was most reluctant to abandon. A rent of £250 was agreed, and Cherwell retained the rooms until his death.	1955-56
	Also included here is notification of Cherwell's election to an Emeritus Studentship of the House.	1956
A.80	Election as Membre Correspondant, Section des Membres libres et des applications de la science à l'industrie, Institut de France, 1955, and a little later correspondence,	1956- <i>5</i> 7
A.81, A.82	Conferment of Viscounty.	1956
A.81	Letter from Prime Minister (Eden) proposing to put forward recommendation for Viscounty.	
	Arrangements for introduction into House of Lords, correspondence with sponsors, etc.	
A.82	Letters of congratulation.	

A.90

1955-56.

# Personal and biographical

		- stocker and brographical	
A.83-	A.87	Award of the Hughes Medal of the Royal Society, November 1956.	1956
	A.83	Notification of award of medal 'in recognition of your distinguished studies in many fields: the melting-point formula and theory of specific heats; ionization of stars; meteors and temperature inversion in the stratosphere'.	
	A.84-A.87	Letters of congratulation.	
		Many of these contain recollections and tributes to Cherwell's scientific achievements; several also refer to the death in October 1956 of Sir Francis Simon (q.v.) who had been Cherwell's successor-designate at the Clarendon Laboratory.	
		In several cases the incoming letter has not survived and only Cherwell's reply remains.	
	A.84	A	
	A.85	B - J	
	A.86	K - O	
	A.87	P - Z	
A.88		Request (declined) that Cherwell accept nomination as candidate for office of Lord Rector, University of Glasgow.	1956
A.89		Correspondence, 1956, with publishers re possible autobiography (Cherwell refused).	
		Request for photograph for National Portrait Gallery.	1956
		Correspondence re visits to Wimbledon Lawn Tennis Championship.	1956, 1957

Miscellaneous requests for biographical information.

A.91-A.101 FAMILY CORRESPONDENCE In alphabetical order.

A.91-A.93 Correspondence with A.F. Lindemann (father), c.1899-1927.

A.F. Lindemann was a distinguished scientist in his own right, with a particular interest in astronomy. A man of wealth, he had a working laboratory installed at the family home, Sidholme, Sidmouth, and collaborated with his son in experiments and publications. The correspondence is therefore personal and scientific in the fullest sense. Cherwell had great respect and affection for his father and writes very openly about his work, career plans and activities.

- A.91 Early correspondence, including letters from Blair Lodge (Cherwell's school), Berlin (1908) re Nernst's laboratory, Brussels (1911) re Solvay Conference at which Cherwell and de Broglie were secretaries, America, during visit to Chicago at invitation of R.A. Millikan (see A.6-A.8) and London (1913) re likelihood of Cherwell succeeding Clifton at the Clarendon Laboratory. Clifton was to retire in September 1914 but the 1914-18 War supervened and Cherwell was eventually elected in April 1919 (see A.20-A.23).
- A.92 Correspondence, 1914-18.

On research and papers. Some of Cherwell's letters refer to his work and flying at Royal Aircraft Factory, Farnborough.

A.93 Correspondence, 1919-27.

Includes a letter (1919) to A.F. Lindemann from Knobel praising Cherwell after hearing a discourse by him.

Scientific and personal news, including Cherwell's difficulties with his rooms in Wadham, his meetings with Churchill, Westminster and others, and his search for a property nearer Oxford for his father; see A.26 re 'The Heights', Marlow. (Cherwell's mother died in 1927.)

See A.95, A.120, A.121 for correspondence re A.F. Lindemann's financial affairs.

See A.28 for letters of condolence received by Cherwell on the death of his father.

See Section C for correspondence on collaborative research and publications with A.F. Lindemann.

A.94 Letters from Charles Jules Adolphe, Count Lindemann. 1913-27 Count Lindemann was cousin to A.F. Lindemann and head of the family; he adopted Charles Lionel, eldest son of A.F. Lindemann and Cherwell's elder brother, as his heir. The letters, in both French and English, are social and personal. A.95-A.97 Correspondence with Charles Lionel Lindemann (elder brother). 1931-55 These are mainly personal letters, sent from and to C.L. Lindemann's private addresses. See D.145-D.147 for letters exchanged 1939-43 from British Embassies in Paris and Washington where Lindemann held various posts and which relate to wartime projects. Several of the letters are undated and have been assigned a tentative place in the sequence. A.95 Includes material re death and estate of A.F. 1930-38. Lindemann, financial and political affairs. A.96 Includes telegrams and letters re C.L. Lindemann's serious illness in 1941, and re his Paris house during the Occupation. A.97 1950-55. A.98 Correspondence with Erika Lindemann. 1950-56 (Daughter of Emil and last surviving member of continental branch of the Lindemann family.) Correspondence re family property. A.99 Correspondence with and re Frédéric Lindemann. 1955 (Cherwell's nephew, son of James (Sepi), younger brother.) A.100 Correspondence with James (Sepi) Lindemann (younger brother).

> letters from Cherwell, 1937, 1942. Included here is a letter from Thérèse, James's widow, 1948 (see also A.128).

Postcard only, signed 'Sepi', 1913, letter 1940, and

A.101

Correspondence with Olga Lindemann (mother).

1905-22

Included here is a telegram from Linda (Vickers, later Kirkpatrick) (sister) announcing the birth of a son, 1916.

	Tersonal and brographical	
A.102-A.119	PERSONAL AND DOMESTIC CORRESPONDENCE	
A.102	Correspondence on photography.	1932-55
	With firms, newspapers and individuals on equipment and methods. Includes arrangements for J. Harvey to attend course at Kodak Limited, 1948.	
	See also A.122, K.100.	
A.103, A.104	Correspondence re cars.	
A.103	Mainly re Mercedes-Benz.	1933-34, 1938
A.104	Mainly re Packard.	1942-54
A.105-A.107	Correspondence re Cherwell's health and diet.	1933-56
A.105	Correspondence with doctors and consultants.	1933-56
	Includes reference to his brother's health, a ms. note from Mrs. Ethel Florey re penicillin ointment for Cherwell's eye (n.d.) and an example of Cherwell's diet as shown in one week's menus (1953).	
A.106	Correspondence re Cherwell's vegetarian foods.	1941-44
	Includes correspondence from Clementine Churchill (1941) on the difficulties of feeding Cherwell, and from C.L. Lindemann and others on supplies of olive oil in wartime.	
A.107	Correspondence re cows.	1945-53
	With estate managers, dairymen, etc., and with H.A. Halban who owned various cows jointly with Cherwell and shared the produce.	
	See also D.117.	
A.108	Correspondence re Cherwell's London flat.	1947
A.109	Correspondence with Chief Constable of Oxford re Cherwell's revolver, 1948, and Oxford traffic, various dates.	
	Included here is a letter (1933), possibly to a motoring organisation, re speed limit in Oxford.	
A.110	Miscellaneous shorter correspondence re domestic electrical equipment. Various dates.	1946-56

A.111 Correspondence re travel in Europe.

Mainly requests for laisser-passer, hotel reservations, including Cherwell's holiday in Europe with his brother, 1954. Various dates.

1930-56

A.112-A.119 Correspondence re Cherwell's staff.

1931-57

Includes letters appointing and dismissing staff, arrangements for the lease, furnishing and tenancy of accommodation, etc.

Cherwell's secretary and longest-serving member of his staff was James Harvey, to whom reference is frequently made. Many of the letters, however, show Cherwell's care for all those he engaged, and his frequent help when they were in financial, medical or personal difficulties. These represent some of the 'secret benefactions' referred to by Birkenhead in his biography The Prof. in Two Worlds, pp.272-4. There are shorter references to similar episodes in many of the more personal letters throughout the collection.

A.112 Correspondence, 1937-48.

Includes letters re Kätchen Weber and Anna Thalmann, the Lindemann family servants, after their return to Germany on the death of A.F. Lindemann.

- A.113 Correspondence, 1948-52, re Mrs. Eda Beard, the Lindemann family nurse, who fell on hard times and appealed to Cherwell for help, which he provided annually.
- A.114 Correspondence, 1949; 1950; 1954-57, on behalf of various members of Cherwell's staff and their dependants.
- A.115 Miscellaneous correspondence by and re James Harvey. 1931, 1949-56
- A.116 Correspondence with Treasurer, Christ Church, Oxford, re lease of Cottage, Rose Lane Gate, for Cherwell's Secretary; includes copy of lease, 1939–40; some later correspondence re cottage, 1952–55.
- A.117 Correspondence with Treasurer, Christ Church, and others re lease of cottage in Blue Boar Street, Oxford, for Cherwell's chauffeur, 1938.

Some later correspondence re cottage and tenants, 1940-51.

- A.118 Letters of thanks from private individuals for loans, gifts or charitable acts by Cherwell.
- A.119 Personal requests for testimonials, advice on careers, etc. Not indexed.

1932-53

#### A.120-A.130 FINANCIAL CORRESPONDENCE

A.120 Copies of correspondence re securities deposited by A.F. Lindemann at Frankfurter Bank, 1914, and subsequent negotiations. Includes schedule of securities in August 1914 and August 1921.

An undated list of the copies, and summary of contents, is tagged into the folder.

A.121 Correspondence, 1925-31.

Re various claims by Cherwell and his family against the German authorities in respect of securities, holdings, funds, etc.

A.122 Correspondence, 1931-46, re Cherwell's investment in Colortone Limited.

Includes some correspondence re various films and processes tried out by Cherwell.

- A.123 Brief correspondence, 1931-38, with accountants, stock-brokers, etc. re investments.
- A.124 Correspondence, 1933, re special Life Assurance scheme.
- A.125 Correspondence, 1932-56, with accountants and bankers re routine tax and financial matters.

Includes correspondence re property and bank accounts in Germany and America, and re an article by Cherwell for the bank's review, 1949.

See also E.124.

- A.126 Correspondence, 1945-57, re Cherwell's Will, and various bequests and endowments made or proposed by Cherwell for his family and friends.
- A.127 Correspondence with Bankers Trust Company re Cherwell's funds in America. 1931-53.
- A.128 Correspondence, 1954-55, re \$1500 paid into Cherwell's account in Paris in payment for an article on the political implication of nuclear weapons commissioned but not published by Look magazine. The Bank of England refused to allow him to leave the money there and insisted on its being exchanged and transferred.

### A.128 (cont'd)

Included here are references to Cherwell's concurrent battles to provide extra funds for Mrs. Thérèse Lindemann and her family, and for Gräfin von Rex, an old friend living in poverty in Germany.

There is an undated schedule of the correspondence, perhaps compiled by or for Birkenhead, included in the folder.

See E.53 for the text of the article.

A.129	Miscellaneous shorter correspondence re subscriptions,	
	accounts, etc.	1935-54

A.130 Miscellaneous shorter correspondence re charities, appeals, etc. 1931-56

#### Personal and biographical

A.131-A.136 PHOTOGRAPHS, PRESS-CUTTINGS, MISCELLANEOUS

A.131-A.134 Photographs.

- A.131 6 sheets of photographs, mounted and some identified.

  Includes photographs taken on Cherwell's visit to
  America, 1913, of tennis parties, of the Churchills, etc.
- A.132 Envelope of photographs, mainly of tennis and house parties, but includes group of members of the de Broglie and Rochetaillée families.
- A. 133 Envelope of photographs sent to Cherwell by C.L. Lindemann during Second World War.
- A.134 Photographs, 1944, of Cherwell with Wavell, Portal, Dudley Pound and others, with accompanying letter.
- A.135 Miscellaneous press-cuttings. 1 box.
- A.136 Miscellaneous items of biographical interest. 1 box.

Includes Cherwell's passports, official passes, Hughes medal certificate, Coronation medal, seating plans, visiting cards, etc., and autographed souvenir menu card from dinner on U.S. Flagship Augusta, August 1941.

SECTION B	OXFORD UNIVERSITY B.1 - B.166	
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B.1 -B.90	THE CLARENDON LABORATORY With an introductory note	38
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B.99 -B.119	GENERAL CORRESPONDENCE ON UNIVERSITY AFFAIRS, 1929-57 With an introductory note	49
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B.147-B.166	CORRESPONDENCE AND PAPERS ON THE OXFORD ROADS PROBLEM, 1953-57 With an introductory note	58

### B.1-B.90 THE CLARENDON LABORATORY

Cherwell (then F.A. Lindemann) was elected Professor of Experimental Philosophy in April 1919 (A.20 - A.23). The condition of the Clarendon Laboratory, and the poor reputation of the study of physics at Oxford when he arrived, have been commented upon in published biographies and obituaries. He quickly began to organise the removal of obsolete apparatus and the acquisition of more up-to-date equipment partly from surplus military stores, partly from accumulated university funds, and partly from industrial manufacturers among his personal friends. Although the reputation of the laboratory grew and improved, receiving new impetus from the German refugee scientists whom Cherwell encouraged to settle there from 1933 onwards, funding continued to be a problem occupying much of Cherwell's time, diplomatic skill and social activity (see B.14 - B.25).

During the Second World War, the Laboratory, now housed in its new building (B.13, B.26 - B.32) was run on Cherwell's behalf largely by T.C. Keeley, though Cherwell continued to devote as much of his own time to its working as was then practicable, keeping a specially keen eye on plans for postwar science and funding (B.42 - B.47). The end of Cherwell's period of service at the Clarendon Laboratory was greatly saddened by the death of his successor-designate, Sir Francis Simon.

See B.37 - B.40 for reports on research conducted under contract at the Laboratory during the Second World War.

See correspondence with C.H. Collie, T.C. Keeley, E. Bolton King, K. Mendelssohn, F.E. Simon for material <u>re</u> administration and research at the Clarendon Laboratory during the Second World War.

See also G.533.

B.1	Early correspondence re grants for the laboratory, arrangements for clearing surplus or unwanted material.	April-June1919
B.2	Correspondence re allocation of apparatus to the Clarendon Laboratory from Royal Aircraft Establishment and other Dispersal Board stocks.	1919
B.3	Correspondence chiefly re supply of liquid air apparatus.	May-Dec. 1919
	Includes letter from Rutherford on liquid air supply, March 1920.	
B.4	Correspondence with Douglas Vickers.	1919-20
	Mainly re supply of liquid helium, but includes long letter from Cherwell, November 1919, outlining his plans for research in Oxford and enquiring about possible financial support from industry.	
	Also includes typescript 'Note on The Application of the Clarendon Laboratory for Helium for Low Temperature Research'.	e n.d.
	See also D.253.	
B.5	General correspondence re finance, staff, books and equipment.	1919
	Includes ms. draft by Cherwell re firm of Adam Hilger.	
B.6	General correspondence re equipment and research.	1920
B.7	General correspondence re finance and equipment.	1921
	Includes Cherwell's ms. letter of thanks for grant from Leigh Fund.	
B.8	Financial estimates for Clarendon Laboratory.	c.1920-21
	Outline for teaching methods and syllabus.	n.d.
	(Both in the hand of I.O. Griffith.)	
B.9	Shorter correspondence and papers <u>re</u> teaching and syllabus at Oxford.	1920
B.10	Correspondence and papers re meteorology in Oxford.  Includes Cherwell's proposal for the establishment of a Readership in Meteorology and the appointment of G.M.B. Dobson.	1920-21

		Oxford Oniversity	
B.11	Corre	spondence and papers on the Museum Departments.	1919, c. 1920
	Letter	and memo. from F. Soddy.	Nov. 1919
	Letter	and memo. on administration of Museum Depart- , no author or date.	c.1920
B.12	Generat the	ral correspondence re equipment and installations Clarendon Laboratory.	1927-36
	'M	Lludes letter of introduction from Birkenhead to r. Morris' (later Lord Nuffield), suggesting Ilaboration with Cherwell, 1927, and letter from Soddy re A.C. electricity supply, 1936.	
B.13	Misce at the	llaneous papers on research in progress or proposed Clarendon Laboratory.	
	(Ne	one signed or dated.)	
	On by	low temperature work (refers to work in Germany Mendelssohn and Simon).	c.1933
	On	extension of I.C.I. contracts to provide security refugee German scientists after 1935.	
		'nuclear chemistry' and research into liquid lrogen. n.d., perhaps 1936/37.	
	On pro	the new laboratory, its design, apparatus, research jects.	n.d. c.1938
B.14-B.25	Fundin	g of research.	1933-38
	re f	respondence with University, firms and individuals inancial support, grant applications, supplies and d-raising for research at the Clarendon Laboratory.	
	Mar by d	ny of Cherwell's letters contain or are accompanied accounts of work in hand.	
	See als	so E.62.	
B.14	1933.	Department of Scientific and Industrial Research. The Leigh Fund.	
B.15	1934.	Oxford University re grant from Rockefeller Foundation for apparatus for research by F.E. Simo and other refugee scientists.	n
B.16	1935.		
B.17	1937.	Appeals to Duke of Westminster and to Lord McGow as part of Oxford University Appeal.	van,

		Oxford University	
B.18	1937.	Oxford University. Correspondence and draft speech to Hebdomadal Council supporting grant of £500 p.a.	
B.19	1937.	Lord Wakefield.	
B.20	1937-38.	Correspondence with J.D. Pollock, re his free supply of liquid oxygen for the Clarendon Laboratory.	
B.21	1938.	Oxford University Appeal, re omission of Clarendon Laboratory from Appeal pamphlet.	
B.22	1938.	Leverhulme Trust.	
		Oxford University (re Government Grants Committee)	
B.23	1938.	Lady Mond.	
B.24	1938.	Oxford University, refunding for a cyclotron.	
B.25	1939.	Oxford University, Request to General Board for major increase in grant to the Clarendon Laboratory.	
		Cherwell's letters to A. Lennox-Boyd and Lord Nuffield re importance of increased government support for scientific research.	
B.26-B.32	The new (	Clarendon Laboratory.	
	ment,	Correspondence and papers re site, rebuilding, equipment, etc. of the Clarendon Laboratory on Parks Road, adjoining the University Parks, Oxford, 1934-39.	
B.26	1934.	Mainly preliminary proposals for 'Committee on Building Requirements'.	
		Includes copy of letter from J.S. Townsend stating he considers no substantial addition necessary for his department.	
B.27	1935-36.	Includes Cherwell's letter of thanks to Vice-Chancellor for unofficial good news about his 'castle in Spain', July 1936.	
B.28	1937.	Includes discussions with architects, consulting engineers and University, re heating system (Cherwell strongly advocated electricity).	
B.29	1938.	Correspondence $\underline{re}$ article on the new building, written by Cherwell for $\underline{Oxford}$ .	

	B.30	1938.	Re meeting of Advisory Committee, 19 May, to discuss physics at Oxford and the relationship of departments, with Cherwell's amendments to the report.	
			Also includes correspondence on comparative cost of gas and electric heating systems.	st
	B.31	1938-39.	Includes letter re visit to the new laboratory by the Chancellor, March 1939.	
	B.32	1939.	Copy of Cherwell's letter to the Warden, All Socre preservation of the chestnut tree in front of the Clarendon Laboratory.	uls, e
B.33		Correspond	dence and papers <u>re</u> radium. 1934-40, 1947-48	, 1952-53
		at his e delayed Anothe	lium was lent to Cherwell for scientific purposes bechoslovak Government in 1934, and was insured expense. In 1939 its return was requested, but was by the war, when it was stored in the Clarendon request for its return was made in 1948 but not dup, and it was finally to be handed back in 195	y vas
		ments,	ondence is with officials of U.K. and Czech Gov insurers, etc., and includes ms. note from Jan M per 1938.	vern- asaryk,
B.34		Correspond Clarendon	lence re Air Ministry contract for research at	1938
		Letter re so war.	uspension of work on negative electrons during	1939
B.35		Correspondence re Admiralty contract for research at Clarendon.		1939-40
B.36		List of research workers at the Clarendon Laboratory, and their current salaries, compiled for Central Register. 1939-		
B.37-	B.40	Reports on mainly on Admiralty	research carried out at the Clarendon Laboratory, radio, and on magnetic detection, as part of contract.	1939-42
	B.37	Work by C	.H. Collie, D. Roaf, A.H. Cooke.	
		Genera	report, December 1939.	
		Prelimin by magn	ary note on the detection of ultra-short waves netic resonance, 9 pp. (by Collie).	

Report by Roaf on above, December 1939.

Note on motion of electrons in a combined electric and magnetic field, by Collie. n.d.

	the state of the s	
B.38	Work by C. Hurst and J.G. Daunt, August 1940.	
	On infra-red, and 0.5 cm. waves.	
B.39	Work by J.H.E. Griffiths and B. Bleaney; D. Roaf; B.V. Rollin; C.H. Collie. Some dated January 1940.	
B.40	Work by B.V. Rollin, on accelerating electrons, August 19	42.
B.41	Brief correspondence re financial estimates for Clarendon, and re a calculating machine.	1944
	Cherwell's carbons only.	
B.42-B.47	Postwar organisation and finance of the Clarendon Laborato	ry.
B.42	Two papers on organisation and finance of postwar universit research, n.d. One is Cherwell's heavily-corrected draft the other is probably not by him.	y ,
B.43	Correspondence and papers re meetings on the future of physics at Oxford, appointments, extensions to Laboratory, etc.	1944-47
B.44	Correspondence re equipment and supplies for Clarendon Laboratory.	1945
	Surplus Balloon Command equipment.	
	Request for helium from National Research Council, Canada.	
1	Surplus water tanks and accumulators.	
	Air Ministry compressors.	
B.45	Correspondence re Royal Society Grant, 1939, 1945.	
	The grant was made in 1939, for work on magnetic fields but was not taken up until 1945.	,
	A.G. Egerton's letter to Cherwell of 1939 is still address to 'Dear Peach', one of the last occasions on which this nickname (detested by Cherwell) was used.	sed
B.46	Correspondence and papers re grant to the Clarendon Laboratory by the Nuffield Foundation.	1945-46
	A grant of £8,000 a year for eight years was agreed by the Trustees in November 1945.	
B.47	Correspondence re safe for Clarendon Laboratory.	1947

B.48	3	Cherwell's recommendation of F.E. Simon for a Nobel Prize in Physics in 1946.	
B.49	)	Shorter correspondence with U.S. Office of Naval Attaché re reports of work in progress.	1947-48
B.50		Correspondence and papers re gift of a Betatron from the Research Department of the British Thomson-Houston Comparto Oxford University, for the Clarendon Laboratory.	ny 1948
B.51		Correspondence re I.C.I. Fellowships.	1948
		Correspondence re grant for F.E. Simon's research from the Department of Scientific and Industrial Research.	1948
B.52		Correspondence with Department of Scientific and Industrial Research re grants and grant-awarding policy. Various dates.	1951-56
B.53		Correspondence with United Kingdom Atomic Energy Authority.	
		Mainly re high acceleration programme (including photocopies of notes and comments on the programme by many distinguished physicists), but also on research projects, consultancies, etc. Various dates 1954–56 and one letter 1948.	
B.54		Correspondence re proposed National Institute for High Energy Physics.	1956
B.55-	-59	Correspondence re Cherwell's resignation of his chair at Oxford, and the appointment of a successor.	1953- <i>5</i> 7
		Cherwell resigned his chair in 1956, at the age of 70. F.E. Simon was appointed his successor in May 1956 but died in October of that year.	
	B.55	1953-55.	
	B.56	1956.	
	B.57	1956-57.	
	B.58	Autographs and letters of appreciation from technical staff of the Clarendon Laboratory on Cherwell's retirement.	956
	B.59	Letters on Cherwell's retirement.	956.
	c 1	1 70	

See also A.78.

	exists only cisity	
B.60-B.67	General correspondence re the Clarendon Laboratory (building, equipment, appointments, etc.). 1947-57	
	Many of the incoming letters have been lost, only Cherwell's carbons surviving.	
B.60	1947-49. Includes letter on Nuclear Physics post-graduate year.	
B.61	1950-51.	
B.62	1952. Includes correspondence re extension of grant from Nuffield Foundation.	
B.63	1954. Cherwell's recommendation of F.E. Simon for a knighthood.	
B.64	1954. Letters of August include data on accelerators in the Clarendon Laboratory; letters of November are with Board of Trade on difficulties in buying American apparatus.	
B.65	1954. Appointments.	
B.66	1955. Funding and appointments.	
B.67	1956-57.	
B.68	Shorter correspondence re research staff at the Clarendon Laboratory. 1932-50	
	(Salaries, conditions of service, grants and promotions.)	
B.69	Correspondence re technical staff at the Clarendon Laboratory. Not indexed.  1929-55	
B.70	Miscellaneous requests to work at the Clarendon Laboratory. Not indexed. 1933, 1947, 1955-56	
B.71-B.77	Correspondence re visitors to the Clarendon Laboratory. 1935-56	
	Requests to visit, from university, industrial and official colleagues in U.K. and overseas, arrangements, letters of thanks, etc. Some material re funding or research is sometimes included.	
B.71	1935, 1936.	
B.72	1945-47。	
B.73	1948.	
B.74	1949.	

- B.75 1950-52. Includes correspondence re visit and lectures by L. Néel.
- B.76 1954-56.
- B.77 Shorter requests to visit laboratory or thanks for hospitality. Not indexed.
- B.78-B.90 Lectures.

All the material below is in Cherwell's own hand, on various sizes and formats of paper; many are punched and bear metal reinforcements.

B.78 Ms. notes for a lecture on Classical Dynamics and Quanta.

Paginated 1-6, with 3 pp. notes and headings on the subject
(on writing paper of Randolph Hotel, Oxford, where Cherwell stayed on his first visits to Oxford).

Included here are notes and calculations, with a date, 1915, added in another hand.

- B.79, B.80 Two sets of lecture notes, possibly prepared for Cherwell's visit to Chicago in 1913 (see A.6-A.8). The writing is more 'Continental' than his later style.
  - B.79 'Solids'. 20 pp., with monogram 'F.A.L.' on p.1.
  - B.80 'Non-ideal gases and liquids', 16 pp.
- B.81 Ms. notes for a course of lectures on Kinetic Theory, subtitled 'Transition from Newtonian to Modern Physics'.

1 p. introduction, + sequence paginated 1-86.

- B.82 Ms. notes for a course of lectures on Kinetic Theory of Gases. Paginated 1-47.
- B.83-B.85 Three sequences of ms. notes for lectures, kept separately by Cherwell but probably forming sections of a course on recent work in physics, alluding to the work and theories of, e.g., Einstein, Nernst, Planck, Debye, Bohr.
- B.86 Ms. notes for a course of lectures on radiation.
- B.87 Ms. notes for a course of lectures 'to familiarise philosophers with some of the conceptions and difficulties of modern physics'.

B.88-B.90 Extensive draft for lectures on philosophical problems of physics, including 'evolution and use of language and logic', 'concepts of Classical physics', 'relativity and the quantum theory and the revolution in our ideas which these have brought about'.

Probably given at Oxford in 1920s, but with extensive additions and revisions in pencil, red and blue ink, at various periods.

There is an index covering pps.1-100, but the complete draft is paginated to p.260 + 1 loose page.

3 folders:

B.88 Pp. 1-100.

B.89 Pp. 101-200.

B.90 Pp. 201-260.

B.91-B.98 OXFORD SCIENCE DEPARTMENTS AND INSTITUTES

B.91-B.96 Radcliffe Observatory (and University Observatory).

1930-36, 1956

Correspondence and papers, mainly re proposal to use a benefaction of £100,000 from Lord Nuffield to construct a new telescope. Cherwell supported the view that the telescope should be sited in Oxford; the contrary view was that astronomical studies would be better advanced by a location in South Africa, and the new telescope was eventually built at Pretoria.

Includes material re Savilian Professorship of Astronomy, negotiations with Radcliffe Trustees, various submissions and presentations of case, affidavits from foreign astronomers, syllabus for astronomy as part of natural science course.

Some scientific correspondence is also included from colleagues, in particular E.A. Milne and H.H. Plaskett.

B.91 1930.

B.92 1931.

B.93 1932.

B.94 1933. Includes affidavits and submissions.

B.95 This covers the period of the Radcliffe Trustees' application in court to use the funds for the Pretoria site, and includes ms. drafts of Cherwell's letters to the Vice-Chancellor and to Lord Halifax during the course of the hearing, and his 12 pp. typescript summary of his view of the evidence.

B.96 1935-36.

1956.

B.97 Delegates of University Museum/Heads of Science Departments.

1932, 1938

Mainly correspondence, 1932, re extension of Radcliffe Science Library.

B.98 Institute of Forestry.

Correspondence, memoranda and papers  $\underline{re}$  siting and staffing of Institute.

1933-38

Includes some earlier correspondence <u>re</u> Forest Products Research Laboratory, 1929.

B.99-B.119 GENERAL CORRESPONDENCE ON UNIVERSITY AFFAIRS 1929-57.

The correspondence is conducted with successive Vice-Chancellors, officers and senior members of the University. It deals with general administrative and financial matters (including Cherwell's own salary at various points in his career), Cherwell's service on University committees, electoral or examining boards, proposed changes in teaching, etc.

Correspondence on administrative matters is generally conducted with the University Registry and on financial matters with the University Chest, but some overlap occurs.

The material is presented as a roughly chronological sequence, with a brief indication of content.

B.99	Correspon	dence, 1929.
	auditing d	dence, 1931–34, re methods of presenting and epartmental accounts, the proposed 'Financial's Statute', and re college contributions.
B.100	1931-34.	General correspondence.
B.101	1935-36.	Includes note prepared by J.S. Townsend on provision for lectures in physics for students of engineering.
B.102	1937-38	$\frac{\text{re}}{\text{of}}$ elections to Hebdomadal Council and $\underline{\text{re}}$ School of Geography and Anthropology.
B.103.	1938.	
B.104	1939-40.	Includes correspondence re continued purchase of German scientific periodicals during the war, and re Cherwell's salary.
B.105	1941.	Recommendations for honours.

B.106	Oxford, (the grou Instrument requisition of the lea	leased in the 1930s by Cherwell from the University and landlord) and used for the business of Oxford at Company (see C.54, D.135). The premises were used in 1941 by Oxford City Council, and the remainder ase was eventually bought by the University (which had own the proposition in 1941) after protracted difficulty ation.
	Cherw a clea	rell's letters of 17 May 1947 and 16 May 1950 give account of his side of the complicated story.
B.107	1943.	Includes correspondence re salaries of Cherwell and T.C. Keeley, and re Cherwell's wartime work.
B.108	1945.	
B.109	1946.	
B.110	1947.	Includes correspondence and drafts on funding and benefactions, salaries, nominations, etc.
B.111	1949.	
B.112	1951.	Includes correspondence on 4th year for physics students, and Cherwell's letter to C.A. Coulson offering him the Rouse Ball Chair of Mathematics.
B.113	1952.	
B.114	1953.	Includes Cherwell's letter recommending Sir John Slessor as Chichele Professor of the History of War.
B.115	1954.	
B.116	1955.	
B.117	1955-57.	On Engineering at Oxford.
B.118	1956- <i>5</i> 7。	Includes letter from Cherwell on the 'National Centre' for research in nuclear physics, and letter re his state old-age pension.

B.119

1956-57. Correspondence and papers arising from the speech of the retiring Senior Proctor in March 1956, in which he reported losses of library books and claimed that scientists (often Senior members) were more liable than others to steal books. Cherwell was indignant and attempted to obtain an official disclaimer, and, when the matter was revived in 1957, sent a letter jointly with Hinshelwood and Florey to The Oxford Magazine.

Includes press-cuttings.

B.120-B.123 WADHAM COLLEGE, 1919-56.

Cherwell's Chair at Oxford, to which he was appointed in 1919, was attached to Wadham College; accordingly, he took up residence there after various difficulties over improvement to the set of rooms assigned to him, and remained a Fellow and Member of the Governing Body until 1956, when he resigned his chair and was elected an honorary member.

In 1921, however, he was offered a Studentship (= Fellowship) and more spacious rooms at Christ Church where he moved the following year and which he came to regard as his only home; see A.79 for special arrangements made to allow him to remain in Christ Church after his retirement. Although he became, in time, one of the oldest and most respected members of Christ Church, it should be noted that he was never a member of the Governing Body of the House; see B.124-B.132 for correspondence on Christ Church affairs.

The material below consists of correspondence with successive Wardens of Wadham, and with Fellows or prospective Fellows about the general affairs of the college.

It is clear that Cherwell gave financial help to the college in various ways from time to time.

B.120	1919-22.	Includes correspondence re Cherwell's rooms, the alterations he wished to have made at his expense, and his draft letter of farewell on moving into Christ Church.
B.121	1924-30.	Includes letter from E.A. Milne, re rooms in Wadham on his appointment as Rouse Ball Professor of Mathematics.
B.122	1931-39.	
B.123	1940-56.	Includes letters from C.M. Bowra on his wish to enlist on active service 1940, and letter, 1956, electing Cherwell an honorary member of the college.

B.124-B.132 CHRIST CHURCH, 1921-57.

Cherwell took up residence in Christ Church in 1922. He was not a member of the Governing Body of the House, which involved a certain dispute over the matter of precedence, in 1927 (B.124), but sat on its special committees from time to time. His social contact with the Duke of Westminster was responsible for the establishment of a Duke of Westminster Research Studentship (B.125, B.126) and his friendship with Einstein helped in encouraging the latter's visits to Oxford in 1931, 1932 and 1933 when he stayed in Christ Church and was elected a Research Student (B.128, see also D.56, D.61).

The correspondence is with successive Deans, Censors, Treasurers and Students of the House, and also with personal friends requesting assistance with admission of relatives to the House and their progress there.

See also A.116, A.117 for correspondence with Christ Church re accommodation for Cherwell's staff.

- B.124

  1921-27. Includes formal letter, 1921, electing Cherwell
  a Student 'while holding Dr. Lee's Professorship of
  Experimental Philosophy', and correspondence, 1926-27,
  re precedence.
- B.125, B.126 Correspondence and papers re Duke of Westminster Research Studentship in physics, 1924-54.

The first holder of the Studentship was E. Bolton King (q.v.); at the conclusion of his tenure in 1930 there was some disagreement about whether the Studentship should continue to carry membership of the Governing Body, but it was eventually decided that it should do so. As time went by, various modifications had to be made to the provisions consequent upon the death of the Duke, the contributions of the University and the House, etc.

- B.125 1924-31. Includes deeds.
- B.126 1932-54.

Oxford	University

		Oxford Un	iversity
B.127	193	to transfer	the Christ Church Laboratory to the Department of Chemistry.
B.128	193	1. Re visit by	Einstein.
B.129	193		esident of Law Club.
B.130	194	0-49.	
B.131	195	0-55. Includes in return to 0	nvitation to dinner to celebrate Cherwell's Oxford.
B.132	195	copy of sp Truman, c Churchill,	orrespondence re Cherwell's retirement, eech at Christ Church Gaudy 1956 by Harry orrespondence re Sutherland portrait of and two drafts of speeches by Cherwell sor's Dinner, 1956.

B.133-B.138	OTHER	OXFORD	COLLEGES
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Mainly requests for advice from Cherwell re appointments. In alphabetical order.

B.133	All Souls	1956
	Balliol	1934
	Brasenose	1949
	Campion Hall .	1946
B.134	Corpus Christi	1932, 1945, 1947
B.135	Exeter	1932
	Lady Margaret Hall	1950
	Lincoln	1954
	Nuffield	1956
B.136	St. Catherine's	1954
	St. Edmund Hall	1954
	St. Hugh's	1955
	St. John's	1949
B.137	Trinity	195-
	Wadham	1953
	Worcester	1951
B.138	Miscellaneous university requests	for advice, references, etc.

	Oxidia diliversity	
B.139-B.146	OXFORD UNIVERSITY AND COLLEGE SOCIETIES AND C	LUBS
	In alphabetical order.	
	For O.U. Conservative Societies and Clubs, see Section	n J.
B.139	Oxford University Air Squadron 1928-38, and Oxford Branch, Royal Aeronautical Society.	, 1946-55
	General correspondence re affairs of the Squadron and its relations with the Society, with successive Command	ers.
B.140	Oxford University Alembic Club.	1941
	Ashmolean (Dining) Club.	1940, 1952-55
	Oxford University Blue Ribbon Club.	1956
	(Cherwell addressed the Club on technological education.)	
	Oxford University Bryce Club.	1955
B.141	Oxford University Camera Club. 1937-38,	1955-56
	Cherwell was President of the Club from its foundation in 1937 until his resignation in 1956.	
	Correspondence with successive Secretaries of the Club, mainly re exhibitions, loans of photographs, etc.	
B.142	Cecil Club (University College).	1949-50
	Chatham Club (Christ Church).	1948
	Oxford University Empire Club.	1936
	Essay Society.	1950
	Oxford University Exploration Club.	1934-36
B.143	Oxford University and City Gliding Club.	1937-38
	Oxford University Lawn Tennis Club.	1955
	Leonardo Society (Balliol College)	1951
	Mercury Club (Christ Church)	1946
	Oxford University Natural Science Club.	1919
	Invitation to join.	

B.144	Oxford University Physical Society.  Election as Honorary Member.	1935
	Oxford University Psychological Society.	1951
	Oxford University Scientific Club.	1946-48
	Oxford University Socratic Club.	1949-54
	Oxford University Theoretical Physics Club.	1949
	Cherwell was Honorary President from the foundation of the Club at the Clarendon Laboratory in 1949.	
	Twenty Club (Christ Church)	1934
	Tyndale Society (Hertford College)	1955
B.145	Oxford Union Society	1945-50
	Requests from Presidents for Cherwell to speak in debates, or to ask Churchill to speak.	
B.146	Oxford University United Europe Movement.	1948-49
	(and the Strasbourg Club)	
	Cherwell was Hon. Vice-President of the United Europe Movement, which was a short-lived society later replace by the Strasbourg Club.	ed
	Brief correspondence with officials.	
	Wills Club (Keble College).	1956
	Woolsack Dining Club.	1956

B.147-B.166 CORRESPONDENCE AND PAPERS ON THE OXFORD ROADS PROBLEM, 1953-57

This was a matter of considerable debate at local and national level, involving the Ministries of Transport and Housing and Local Government, as well as Oxford City Council and its Committees, the Oxford Preservation Trust, Oxford University and its colleges. The controversy continued in the press through articles, features and especially the correspondence columns, and there were also broadcast talks and comment.

The problem was the congestion of traffic in the central areas of Oxford. A partial solution, with which the earlier material is mainly concerned, involved the construction of outer by-passes and the development of better independent shopping and entertainment facilities outside the centre, particularly at Cowley. Bitter controversy arose over the necessity, and the siting, of 'inner relief roads'; various plans, some very drastic, were proposed, and in September 1956 Duncan Sandys (now Lord Duncan-Sandys), then Minister of Housing and Local Government, wrote to Oxford City Council requesting submission of a proposal for a road through Christ Church Meadow, and an access road by an extension of Rose Lane. The later material deals with the mobilisation of opposition to this plan.

The correspondence is with local officials, amenity societies, University and college authorities, Ministers, House of Lords colleagues, members of the general public.

In 1953 the Minister of Transport and Civil Aviation was A. Lennox-Boyd (now Lord Boyd of Merton) and the Minister of Housing and Local Government was Mr. (now Sir) Harold Macmillan. Several memos. and letters sent to or on behalf of Cherwell bear the signature of P.J. Searby, his London secretary at this time.

The material is presented chronologically, with a brief indication of content.

B.147	June-July 1953 re housing and outer by-passes, includes copy of questions to be asked in House of Lords about road programme.
B.148	August 1953. Correspondence and memos. on outer by-passes, and Clarendon Hotel (now Woolworths).
B.149	September-November 1953. Includes correspondence with Ministers.
B.150	1954. Includes correspondence with Minister of Housing.
B.151	February-March 1955. Includes note by Cherwell for Churchill on Oxford Town Planning scheme.
B.152	April-May 1955. Includes correspondence with Minister of Housing, and copy of letter by Cherwell to The Oxford Magazine on proposed internal relief roads.
B.153	June 1955. Correspondence and memos.
B.154	July 1955. Correspondence, memos. by Cherwell and others, press-cuttings.
B.155	August 1955. Correspondence and press-cuttings.
B.156	October-November 1955. Includes letter of protest drawn up and circulated by Cherwell to Heads of Science Departments and correspondence arising, press-cuttings
B.157	May-July 1956. Includes correspondence with Minister of Housing and Local Government and with Private Secretary to Prime Minister.
B.158	September 1956. Correspondence, including Minister's decision on the question (to incorporate a road through Christ Church Meadow).
B.159	October 1956. Correspondence and memos. re Roads Committee at Christ Church, letters and articles in the press, and Beveridge's proposal for a debate in the House of Lords.
B.160	November 1956. Includes copy of Writ issued between Dean and Chapter of Christ Church and Ministry of Housing and Local Government, and of the Defence.

B.161	February 1957. Papers issued by Christ Church, re their Writ against the Ministry and their discontinuance of the action, and re the need for a Royal Commission.
B.162	February 1957. Debate in House of Lords, 13 February.  Order paper, list of speakers, 1 p. ms. headings and 40 pp. typescript and ms. of Cherwell's speech.
B.163	February 1957. Correspondence preceding or following debate.
B.164	March 1957. Miscellaneous correspondence (and undated) including two humorous poems on the controversy.
B.165	Miscellaneous drafts and copies of memos., speeches, articles and letters by Cherwell on the roads problem. Not dated.
B.166	Folder of press-cuttings on the roads problem.

### SECTION C SCIENTIFIC RESEARCH, WRITINGS, CONFERENCES C.1 - C.89

The material includes notes, drafts, patents and inventions, together with related correspondence. It is presented in chronological order, so far as this is ascertainable.

Conferences and visits have been kept in a separate sequence, C.79 - C.89.

See B.79 - B.90 for Cherwell's lectures at Oxford University.

See E.1 - E.21 for shorter articles, letters to the press, etc. on scientific matters, and E.61 - E.103 for similar material on scientific and technological education.

## C.1-C.4 Gas pressure in Röntgen tubes, 1912-20

C.1 Five notes on Röntgen tubes, some prepared for patents.
All in German.

3 pp. on regulation of gas presure.

2 pp. on construction of Röntgen tubes.

3 pp., similar.

5 pp. on regulation of gas pressure in Vacuum and Röntgen Tubes, Berlin, 1913.

4 pp. ms. draft patent specification on regulation of gas pressure. n.d.

C.2 Correspondence with German patent agents re Cherwell's German patents (on Röntgen Tubes), 1912–13, continued 1920.

Includes Patent.

- C.3 Correspondence with French patent agents re Cherwell's French patents (on Röntgen Tubes), 1914, continued 1920.
- C.4 Correspondence with British patent agents re Cherwell's patent No. 27599/13 (on regulation of gas pressure in Röntgen Tubes), with drafts and copy of Patent. 1914, continued 1920.
- C.5 'Lindemann glass'.

(A glass suitable for use in X-ray tubes, largely developed in the Lindemann family laboratory at Sidholme.)

A note on the glass, and letter from L. Dunoyer, 1914.

C.6 Free electrons in metals.

8 pp. ms. paper, in German, n.d.

7 pp. typescript and ms. note, n.d. probably 1915. ms. draft of letter to O.W. Richardson re his and Cherwell's work on electrons in metals, 1915.

C.7 Isotopes.

1 p. 'In reply to Dr. Bohr's remark on the discussion on Isotopes at the meeting of the B.A. 9.IX.15'.

3 pp. note (perhaps for discussion meeting) on dissimilar chemical properties of isotopes, n.d.

ms. notes and calculations on separation of Isotopes by electricity, n.d.

C.8 1914.

Draft letter to Naval Construction Department, Admiralty, re microphone to detect submarines.

The letter, dated 13 August 1914, refers to 'our interview this morning'.

See also C.18.

C.9, C.10 Work on range finder, 1915.

These drafts represent research done at Sidholme before Cherwell began work at Farnborough in March 1915.

C.9 'Method for locating and finding range of guns'.

Drafts of specification and forwarding letter,
February 1915.

C.10 'Method for locating concealed guns'.

Drafts (one dated March 1915), and 2 pp. later notes 'for experimental proof'.

### C.11-C.31 Royal Aircraft Factory, Famborough

Cherwell worked on various projects connected with range and direction finding, detection of submarines and aircraft, and aircraft spin, for which he is particularly well known (see A.10-A.17, E.19, E.20 for other material on his service at Farnborough).

The material consists of ms. drafts or official reports and specifications, sometimes accompanied by correspondence. Some ideas survive only through references in correspondence, since many early R.A.F./R.A.E. records were destroyed; occasionally Cherwell's correspondents were so discreet in their letters that it is not always possible to determine what project is in question.

Continuing correspondence on various devices and inventions begun at Farnborough has been retained here although Cherwell had moved to Oxford in 1919.

### C.11-C.13 1915.

- C.11 Two short notes by Cherwell, on submarine detection (April 1915), and on 'Incendiary packages that catch fire when dry' (to be dropped from aeroplanes) (22 July 1915).
- C.12 Two reports from R.A.F. H. Depôt:

'Report on methods of signalling' (16 May 1915).

'Means of communication between passenger and pilot' (12 December 1915).

Unsigned, probably not by Cherwell.

### C.13 Correspondence:

H. Jackson (on quartz lens)

M. O'Gorman (long range aircraft detection)

T.R. Merton (long range ship detection)

N.K. Adam (liquid hydrogen)

C.14-C.17 1916.

C.14 Two reports by Cherwell.

'Secret signalling by infra-red rays', 19 January 1916.

'Report on experiments with polarizer for observing submerged objects', 11 February 1916.

C.15 Correspondence with colleagues re polarised light, 1916-17.

Includes official authorisation for Cherwell to be offered 'all facilities for testing his device in the air'.

C.16 Correspondence re Standing Committee on Glass and Optical Instruments Sub-Committee on X-ray Glass Apparatus.

Cherwell attended a meeting on 1 May 1917 to describe his apparatus.

C.17 Correspondence.

re location of artillery.

R.V. Goddard re B.E.2C aircraft.

C.18-C.20 1917.

C.18 Reports by or re Cherwell.

'Note on a rate of climb indicator for use on aeroplanes', March 1917.

'A suggestion for the detection of aircraft or ships by long-wave radiation', March 1917. (Refers to Cherwell's letter of August 1914, see C.8.) 1 p. only

C.19 'Note on recording accelerometer for measuring stresses on aeroplanes', 15 June 1917.

'Experiments on diving sight', 21 June 1917.

C.20 Correspondence.

T. Lowe (on range finding by aeroplane). re towed missiles.

W.G. Duffield (compass).

Authorisation to fly in test aeroplane.

	Scientific research, writings, conferences
C.21-C.31	1918-21.
	Reports by or re Cherwell.
C.21	'Report on trials of aerial range finder ', 27 January 1918.
C.22	'Note on the possibility of countering balloon barrage', 28 April 1918.
C.23	'Note on T.1059c' (Paper for Advisory Committee for Aeronautics), April 1918.
C.24	'Note on cloud flying', 30 May 1918.
C.25	'Note on a geometrical construction for rectifying any arc of a circle'.
	Ms. draft of paper published in Phil. Mag., 36, 1918.
C.26	'Possibility of countering balloon barrages', 11 June 1918.
	(Continuation of C.22 above.)
C.27	'Report on Kite balloon barrages', 28 July 1918.
C.28	'Action of Wind on Flexible cables', October 1918 (not by Cherwell).
	Earlier R.A.F. report on sound detection, June 1912.
C.29	Two ms. notes by Cherwell, on self-correcting compass, and on gravity controlled sextant (probably contribution to a discussion meeting).
	Note on questions to be asked of Air Minister (no author or date, but probably by Cherwell, 1918).
C.30	Correspondence, 1918-20.
	? Tincker (experimental results)
	G.I. Taylor ('spiral thermometers')
	H. Grinsted ('speeddriftometer')
	H.E. Wimperis (range finding from the air, and compasses)
	D. Vickers (improvement in filament lamp)

C.31 Continuing correspondence on the 'Lindemann Range Finder', 1920-21.

### C.32-C.40 Astronomy and meteorology

C.32 2 pp. draft on dark stars, n.d.

Probably related to paper published in Mon. Not. R. Astr. Soc., 75, 1915.

C.33 Heavily-revised and corrected ms. draft for a paper on solar physics, n.d.

(written on H.M.S.O. writing paper and probably from Farnborough).

C.34

6 pp. draft for paper on photoelectric photometry and astronomy. In German. Perhaps related to paper on the subject published in collaboration with A.F. Lindemann (Mon. Not. R. Astr. Soc., 79, 1919).

Included here is a letter from J. Evershed on proposed testing in Kashmir of hypothesis in Cherwell's previous collaborative paper with A.F. Lindemann (Mon. Not. R. Astr. Soc., 77, 1916).

C.35 3 Letters to 'The Observatory', 1918.

On the relative equilibrium of stars.

On refraction near the sun.

On life of the sun.

C.36 Ms. draft for paper on distance of the globular clusters.

With a letter (signed 'Peach') to A.F. Lindemann on research on clusters, March 1919.

C.37, C.38 Work on magnetic storms, re paper published in Phil. Mag., 38, 1919.

C.37 Ms. draft notes.

Correspondence arising from publication, from:

A. L. Cortie 1919

W. Keesum 1920

M.N. Saha 1920

Ms. draft, 'Line of Sight Displacements of the Hydrogen Lines in Nova Aquilae', probably for discussion meeting of Royal Astronomical Society and answering objections by A.L. Cortie, n.d.

C.38 Notes of meeting 'for the Discussion of Geophysical Subjects' at Royal Astronomical Society, 3 December 1920 (mainly between Cherwell and S. Chapman).

Includes correspondence received before and after meeting, and a later letter from Chapman, 1922, accepting Cherwell's views.

C.39 Work on ionisation.

Draft remarks for discussion on ionisation at Faraday Society, 21 January 1919.

1 p. only draft on similar subject, re theories of S. Chapman, n.d., probably earlier.

C.40 Discussion meeting on relativity and astronomy, 12 December 1919.

Ms. and typescript drafts for remarks, and ms. draft by F.J.M. Stratton for published account.

Includes letter from O. Lodge headed 'going back to Edgbaston midnight', accepting Cherwell's criticisms as put forward at meeting.

C.41	Series of notes on various physical and philosophical problems.
	The notes are all written on Wadham College post- cards and may date from 1919–22, before Cherwell moved to Christ Church. They include:
	Sequence numbered 2-6, on isotopes.
	Sequence numbered 2-4 and 2 loose cards, on Einstein's and quantum theories.
	Unnumbered but related cards on Euclidian and Einsteinian geometry.
	Unnumbered but related cards on philosophical aspects of physical knowledge.
	Also included are two unrelated cards (not Wadham College).
C.42	11 pp. ms. draft for paper on Einstein's theories, n.d. c.1920.
C.43	Note on separation of isotopes by their different mobilities (in a letter to G.P. Thomson), 1921.
C.44	Note on wave theory of light (2 pp. only), n.d.
C.45	3 pp. note on radio waves in the ionosphere, n.d. c.1924.
C.46	Patent 210492, 'Torsional Suspension', 1922.
C.47	Patent 580679, 'Galvanometers', 1923. (based on above)
C.48	6 pp. draft for paper on rotation of spiral nebulae, n.d., probably related to paper published in Mon. Not. R. Astr. Soc., 83, 1923.
C.49	2 letters, 1923, on inventions by Cherwell:
	from Department of Scientific and Industrial Research, on galvanometer
	from Air Ministry, on night bombers.
C.50	Review of A. Eddington: 'The Mathematical Basis of Relativity', 1923.
C.51	Note on helium (letter to Russell), n.d.
C.52	Notes, drafts and calculations for work on meteors, n.d., c.1924.
	7

C.53-C.57	Work on photo-electric cells, 1923-40.
C.53	Letters, 1923, 1925, from Admiralty Department of Scientific Research and Experiment, re work to be done by Cherwell on photo-electric cells.

Undated description of an invention to improve photo-electric images by 'graticules', 7 pp.

- C.54 Correspondence and papers, 1928-40, remanufacture and sale of photo-electric cells, by Oxford Instrument Company (run by E. Bolton King in premises leased by Cherwell in Keble Road close to Clarendon Laboratory).

  See also B.106, D.135.
- C.55 2 descriptions of invention for 'Improvements in Photoelectric Cells'.
- C.56 Agreement with Phonofilms for supply of cells by Cherwell, 1927.

Accounts re manufacture of cells, July 1927-December 1930.

C.57 Correspondence re Photo-electric Cell exhibition, held April-September 1933 at the Science Museum, London.

Cherwell lent his original Lindemann Electrometer, and Stellar Photometer, and subsequently allowed them to remain for a further period in the permanent collection.

Includes photograph of Lindemann Electrometer.

See B.106 for correspondence with Oxford University and others re premises at 7 Keble Road, used for the project.

C.58 Shorter papers, c.1926-30.

Answer to a mathematical puzzle, 1926.

Note on 'The Origin of Atmospheric Ozone'.

Draft Report on the reorganisation of Radio Research between N.P.L., Teddington, and Radio Research Station, Slough.

Correspondence re Patent Application for X-ray tubes, 1930.

Correspondence re meetings of Royal Astronomical Society, 1930.

C.59 2 notes on airships, with reference to the R.101 disaster, c.1930.

Perhaps prepared for Sir John Simon, who chaired the enquiry into the disaster, see K.273.

2 pp. note on airship design.

5 pp. note on possible causes of the R.101 disaster.

C.60 Notes of Cherwell's contributions to discussion meetings held on astrophysics in Berlin, 1932.

In German, for published proceedings.

C.61 Correspondence with British patent agents re Cherwell's patent No. 8103/31, 'Device for printing or reproducing coloured photographs of films', and United States Patent based on above, 1932-33.

Includes copy of U.S. Patent.

C.62-C.65

'The physical significance of the Quantum Theory',
O.U.P. 1932.

Correspondence arising from the publication of the book.

C.62 With O.U.P. <u>re</u> review copies, sales, etc., 1932.

Cherwell's copies of his letters to accompany complimentary copies.

C.63 Correspondence with Editor, Nature, regretting the unsatisfactory review of book in Nature and offering Cherwell the opportunity to put forward some of his ideas in the course of a review of Jeans's book 'The New Background of Science'.

Includes typescript draft of review.

### Scientific research, writings, conferences

C.64	Letters from friends and colleagues re book, 1932.
	Later correspondence, 1949–50, with Lord Samuel re book and re Samuel's own writings on physics.

- C.65 Correspondence re book, with Sir Oliver Lodge, February-April 1932.
- C.66 Correspondence, 1932-33.

re work on primes.

Includes 3 pp. detailed unfavourable comment on a paper by Cherwell, from E.A. Milne.

- C.67

  Notes and drafts for talks or papers on low temperatures.

  Includes 4 pp. draft for talk/demonstration on Absolute
  Zero on bicentenary of death of Fahrenheit (1936).

  5 pp. draft on low temperature research, n.d., and shorter notes.
- C.68-C.71 Baird Television Company, 1936-40.

Cherwell was consultant to the company, and the material relates to ideas for inventions and patents.

- C.68 1936-37. Includes ideas for artificial cooling of electrodes, and for improvements to television receivers.
- C.69 1938. Includes patent for improvements to television receivers.
- C.70 1939-40. re French and British patents for 'Coordinate Scanner'.
- C.71 1948-49. Continuing correspondence with Cinema-Television Limited, with which Baird was merged in 1940.
- C.72 Material on the constitution of the atmosphere.

Related to a discussion on 'The Upper Atmosphere' at a Joint Meeting of the Chemical Society, the Physical Society and the Royal Meteorological Society, held at the Royal Institution, 4 May 1939.

The meeting was introduced by F.A. Paneth; Cherwell contributed a paper on 'Meteor Evidence' and also to the general discussion. (Published in Q. J. Roy. met. Soc., LXV, 1939.)

Includes Cherwell's drafts for the published paper 'Observations on the Discussion on the Constitution of the Upper Atmosphere', and two shorter undated notes, 4 pp. and 3 pp.; correspondence with colleagues.

### Scientific research, writings, conferences

C.73 2 pp. undated note on mathematics.

C.74 Correspondence, 1941.

Ke Cherwell's paper 'Number of primes and probability considerations', Nature, 148, 11 October 1941.

With editors, and correspondence arising.

C.75 Correspondence, 1945-50.

re Cherwell's paper 'Note on the distribution of the intervals between prime numbers', Quart. Journ. of Math., 17, March 1946, and his paper in collaboration with F.V. Atkinson, 'The mean-values of arithmetical functions', Quart. Journ. of Math., 20, June 1949.

See also D.11.

C.76 Shorter notes and writings, c.1946.

'Uses of nuclear physics', 1 p., n.d.

3 pp. note on absorption coefficient, 11 February 1946.

5 pp. paper on research at the Clarendon Laboratory, with a ms. note (not by Cherwell) 'Science Survey Broadcast. 5 July 1946'. See also E.11.

C.77 Extensive notes and drafts on mathematical topics.

Typescript and manuscript. None dated, but many on writing paper of Paymaster-General's Office and probably 1952-53.

Some of the sheets are paginated, but do not form a complete sequence.

C.78 Answer to a 'Brains Teaser'.

Unidentified notes and calculations by Cherwell.

C.87

	Scientific research, writings, conferences
C.79-C.89	Conferences and visits, 1911-56.
	See E.73, E.74 for conferences on scientific and technological education attended by Cherwell.
C.79	First Solvay Congress, 1911.
	(Cherwell was joint secretary with M. de Broglie.)
	Bound volume of photographs of participants, many signed.
C.80	Invitation and correspondence re second Congress, 1913.
C.81	Correspondence, programme re joint meetings of the Aristotelian Society, 1919-20.
C.82	Letter from H.A. Lorentz re Solvay Congress, 1921 (Cherwell was not invited).
	Letter re proposed conference on ozone, 1929.
	Letter re proposed conference on 'Science and the ordinary man', 1949.
C.83	Eighth International Congress of Refrigeration, 1951.
	Invitation to act as Vice-President.
C.84	International Conference on Nuclear Physics and Physics of Fundamental Particles, Chicago, 1951.
	Cherwell combined this with visits to laboratories and research institutes in Canada and America, official and personal matters, etc.
	The material includes invitation, travel and currency arrangements, correspondence with colleagues to schedule
	visits to laborataries, letters of thanks, etc. Cherwell's letters of 27 August to A.K. Longair and to C.L. Lindemann give details of his proposed itinerary.
C.85-C.87	Visit to Ceylon, Australia and America, September-October 1953.
C.85	Itineraries and programmes, background statistics, currency arrangements.
C:86	Invitations, Cherwell's letters of thanks for hospitality.

Draft of talk given by Cherwell on Radio Ceylon.

# Scientific research, writings, conferences

C.88 International Congress on Documentation of Applied Chemistry, November 1955.

Cherwell was President of Honour, and contributed a Foreword to the conference handbook.

Correspondence and drafts of Foreword.

C.89 Visit to Germany, 1956.

The visit was arranged at the request of the Foreign Office, for British Week at Munich and to include visits to laboratories, talks with Ministers.

### SECTION D SCIENTIFIC CORRESPONDENCE D.1 - D.266

The correspondence is presented in alphabetical order, with terminal dates and a brief note of any material of particular scientific or biographical interest. Most of the letters are exchanged with individuals, but some societies, committees and organisations are included; these are indexed under their own name (e.g. Academic Assistance Council, Imperial Chemical Industries) and also under the names of individual correspondents included therein. A note is made of cases where incoming letters have been lost and only Cherwell's carbons survive.

While some of the correspondence is brief and formal, there are some substantial exchanges which complement aspects of Cherwell's career at many stages; such are the exchanges with early scientific colleagues (e.g. Nernst, Aston, Einstein), and collaborators at the Clarendon Laboratory (e.g. Keeley, King, Griffith, Simon, Tuck), and Cherwell's negotiations with industrial firms for financial support (see especially the correspondence with I.C.I.)

Cherwell's work in assisting Jewish scientists of German extraction to leave Nazi Germany and continue their scientific career elsewhere is well known, more particularly in relation to the I.C.I. Fellowships he was able to obtain for a limited number of such cases. He was, however, involved with many others. The following items all relate to scientists or professional men whom he assisted or attempted to assist in this way:

D.1	Academic Assistance Council
D.7	Arndt, F
D.19	Berg, W.F , Bergmann, S.
D.21	Berl, S
D.23, D.24	Born, M
D.25	Bosch, C
D.31	Brutzkus, J
D.32	Cahn, H
D.72	Fajans, K
D.77	Franck, J.
D.78	Frank, L

D.80	Gång, K
D.81	Gemant
D.86	Haber, F
D.87	Hahn, A.F
D.120	Joachim, H
D.126	Kallmann, H
D.148	London, H
D.154	Meitner, L
D.156	Mendelssohn, K
D.183	Rabinowitsch, E
D.184	Rado, R
D.224, D.225	Schrödinger, E
D.228-D.233	Simon, F.E
D.240	Teller, E
D.244	Traube, J
D.251	Urbach, F
D.257	Weissberger, A
D.263	Windaus, A, Winternitz, P

Additional references to assistance for refugee scientists may be found in the following items:

D.21	Berlin, I
D.89	Hardy, G.H
D.91	Houtermans, F.G.
D.94-D.113	1.C.1.
D.153	Mayer, E
D.161	Molson, A.H.E
D.249	Tyndall, A.M

Other material relating to scientific research at the Clarendon Laboratory can be found in Sections B and G; material relating to atomic energy and the development of the Atomic Energy Authority is in Section J.

D.1 Academic Assistance Council 1933-36, 1940 Correspondence 1933-36, re the work of the Council in placing and finding financial support for refugee scientists. Includes lists of displaced German scholars prepared by the Council at various dates. With one letter 1940 from Society for the Protection of Science and Learning (successor to the Council) See also correspondence with I.C.I., D.94-D.113 D.2 Allibone, T. E. 1929 (Cherwell's carbon letter of recommendation), 1953 Ambronn, L. 1913 D.3 Andrade, E. N. da C. 1928-49 Personal and scientific correspondence. Includes correspondence on various wartime projects, fuzes, flash lamps, Andrade's employment, etc. Andrews, C. 1932 D.4-D.6 Appleton, E. ٧. 1940-55 3 folders as follows: D.4 1940-49. On various wartime matters, mainly radio research, R.D.F., Ionospheric forecasting. Includes letter, 1940, from Rayleigh rethreatened requisitioning of his laboratory. D.5 With Appleton and others re possibility of generating electricity from peat in Scotland; Appleton was Chairman of the Scottish Peat Committee investigating the question. D.6 1955. Cherwell's carbons only. D.7 Appleyard, R. 1923 Arco, 1950 Arndt, F. 1933

Arrangements for Arndt to come to work in Oxford.

D.8 Askeland, K.

1947

Correspondence, drawings and patent regeneration of electricity from tidal power.

Enclosed here is an undated memaandum on the subject, in German, 2 pp.

D.9 Aston, F. W.

1917-21

Includes Aston's account of his apparatus, 'a daisy at isotope production' and its early 'most astonishing' results. His letter of 21 February 1920 lists his current determinations of isotope masses. Aston was awarded the Nobel Prize in 1922.

The correspondence, which is very friendly, includes reminiscences of 'Chudleigh' and news of friends in Cambridge at work and play.

D.10 The Astor Foundation.

1954-56

This was a charitable Foundation set up by Viscount Astor in 1954 'to provide a fund in dollars for the benefit of Great Britain, to forward scientific, medical, educational, culture and other projects ...'

The Foundation had an original life of fifteen years; the British Advisory Committee consisted of:

The Treasurer of the Royal Society;
The Warden of All Souls;
The Founder, or his successor;
Anyone else co-opted or appointed (Cherwell was asked by Astor to serve on the original Committee

Correspondence is with the Founder and colleagues re the Foundation, and the award of grants to British scientists.

The first 'Astor scholar' was P.B. (now Sir Peter) Hirsch, and his letter of thanks is included.

D.11 Atkinson, F. V

1948-49

re their joint paper 'The mean-values of arithmetical functions'.

See also C.75.

D.12, D.13 Atkinson, R. d'E. 1924-56

Personal and scientific correspondence re research, publications, appointments.

Correspondence consists almost entirely of Atkinson's letters; very few of Cherwell's replies survive.

D.12 1924-29.

D.13 1930-56.

D.14 Atomic Scientists' Association 1946-53

Mainly notification of meetings and activities, minutes and circulars.

Cherwell was a Vice-President, and frequently protested, at meetings and in correspondence, at the Association's involvement in politics.

D.15 Bannister, R. G. 1955

Cherwell's carbons only.

D.16 Barcroft, J. and others. 1940-41

Correspondence and notes re use of dogs as experimental animals at Chemical Defence Organisation, Porton, for military investigations.

D. 17 Barnet Instruments Limited 1937-38

Research on various instruments and indicators for aircraft.

D.18 Battelle Institute Limited 1955-56

Miscellaneous correspondence re possibility of establishing a Battelle Institute laboratory in Britain.

D.19 Beghian, L. E. 1955

Bennett, A. E. 1936

Berg, W. F. 1933, 1940

Bergmann, S. 1933

D.20	Berkeley, Earl of	1928-35
	Scientific correspo in Berkeley's resea	ndence at various dates <u>re</u> problems
	Includes some socie etc. with Lady Ber	al correspondence <u>re</u> visits, engagements, keley, 1934-45.
D.21	Berl, E.	1933
	Berlin, I.	1933
	re W. Heisenberg	
	Bethe, H.	1933
D.22	Bhatnagar, S. S.	1944
	Bickerdike, R. E.	1955
	Blunt, J. A.	1950
	on 'flying saucers'	
	Bodenstein	1933
	Cherwell's carbon	only
D.23, D.24	Born, M.	1930 (one letter only), 1933-56
	Scientific and perso (to September 1933	onal correspondence; the early letters ) are in German.
	scientists and to Bo	33–34, refers to several refugee German rn's and Cherwell's efforts on their eller, F. London, Kallmann, Stobbe,
D.23	1920, 1933-38	
D.24	by E	udes various wartime suggestions put forward Born, his views on Palestine, history of Intum theory, etc.
D.25	Bowen, E. J.	1935
	Bowers, K. D.	1957
	Bosch, Carl	1934, 1936
D.26	Brabazon of Tara	1931, 1945, 1951

D.27	Bragg, W. L.	1919-54
	General correspondence, va	rious dates 1919-54.
	Includes one letter from Sir Lawrence), 1933, and draft of Cherwell, written for Nature	bituary of Sir William by
	Also included is a little corr	espondence with Lady Bragg.
D.28	Bridgman, P. W.	1950
D.29	British Association for the Advance	cement of Science 1932, 1949
		's contributions to meeting on and invitation to him (declined) ttee, 1949.
D.30	Bronte-Stewart, R.	1957
	Cherwell's carbon only	
	Brooks, C. E. P.	1947
D.31	Brutzkus, J.	1933
	re German refugees	
	Bullard, E. C.	1949, 1952, 1956
	Burton, C. V.	1917
	Bush, J. V.	1943
D.32	Cahn, Heinz and Cahn, Hilda (eldest daughter of W. Nernst)	1934-39
	Arrangements for settling in I of 1938 refers to Cherwell's of Hahn, daughter of Angela Ho W. Nemst.	acting as Trustee for Ursula
	See also D.87, D.170, D.17	2
D.33	Calvert, H. R.	1930
	Work in Franck's laboratory	
	Chadwick, J.	1940
	re French stock of heavy water	er.
D.34	Chapman, S.	1919, 1951-52

Correspondence 1951-52 refers to attempts to save the non-magnetic ship Research, designed in 1935 to carry out magnetic observations at sea.

D.35	Collie, C. H.	1929-53
	Correspondence re research i visits, appointments, etc. at	
	Correspondence of 1935 refer pondence of 1940 refers to we on wartime contracts.	
D.36	Compton, A. H.	1934
D.37	Cooke, A. H.	1940
	re Cherwell's enquiry about mission lines as guides for air	
	Cookson, K.	1955
	Corner, J.	1957
	ms. note on primes.	
D.38	Copeman, S. A. Monckton	1928-34
	Treatment of cancer tumours be includes correspondence on so C. Gouldesbrough.	
D.39	Council for British Archaeology, a	ind others 1949-56
	Correspondence with Council re scientific methods, tests, e history of art.	and with colleagues in Oxford, tc. for archaeology and the
D.40	Courant, R.	1935
	re German refugees	
	Curtis, W. E.	1951
	Cwilong, B. M.	1947
D.41	Daunt, J. G.	1946
	de Bélinay	1950
D.42	de Broglie, L. V. 7th Duc	1915, 1955
	Correspondence of 1955 refers Membre Correspondant, Acadé includes a list of his published	émie des Sciences, and

D.43-D.46	de Broglie, M.	6th Duc
	4 folders of follows:	scientific and personal correspondence as
D.43	1912-20	Mainly scientific correspondence on radiation experiments, publications, Solvay conference, sound-waves, etc.
D.44	1921-40	Includes correspondence re conferment of Hon.  Degree on de Broglie at Oxford, June 1921, his award of Hughes Medal of the Royal Society, 1928, and of his election as Foreign Member of the Royal Society, 1940.
D.45	1944-50	Includes correspondence, 1948, re projected cross-channel radio conversation between Cherwell and de Broglie on 'Rôle de la science dans la civilisation', to be recorded by Radio-diffusion Française.
D.46	1951-56	Includes correspondence, 1955, re Cherwell's election as Membre Correspondant, Académie des Sciences.

See also correspondence with the de Pange and de Rochetaillée families.

D.47 Dee, P. I. 1946

re Cherwell's part in development of H2S.

de Haas 1937

Cherwell's carbon only

De La Rue and Co. Ltd., and others 1955

Dewar, J. 1917

re Cathode Ray tubes.

D.48 Dobson, G. M. B. 1919-56

Includes early scientific correspondence, 1919-20, re research and re Dobson's Lecturership in Meteorology at Oxford, and material re his retirement dinner in 1956.

D.49 Droge, T. C. 1932

Cherwell's carbon only, on financial support for science.

DuMond, J. W. M. 1954

Dunworth, J. V. 1954-56

re Journal of Nuclear Energy, etc.

D.50 Eddington, A. S. 1913, 1915, 1916, 1918, 1932 (Cherwell's carbon only)

Mainly re publication of Cherwell's papers.

D.51 Egerton, A. C. G. 1914-20, 1929, 1936, 1940, 1945

Scientific and personal correspondence.

Egerton was one of Cherwell's earliest colleagues; he, his wife Ruth, and Cherwell had all worked in Nernst's laboratory befare the 1914–18 War, and he was Reader in Thermodynamics at Oxford from 1921 to 1936 when he moved to Imperial College, London.

Most of the early letters are signed 'Jack'; Mrs. Egerton continued to address Cherwell as 'Peach' as late as 1936.

Correspondence of 1914 relates to Cherwell's and Egerton's attempts to assist war effort and includes a copy of their letter of 8 August 1914 offering their services to the War Office.

D.52 Eggert, J. 1954

Ehrenfest, P. 1914, 1926

D.53-D.69 Einstein, A. and others.

Correspondence and papers 1921-55

Mainly related to Einstein's visits and lectures in Britain, and including some scientific exchanges and personal material.

D.53 Correspondence 1921

re Einstein's visit, and lectures in Britain.

D.54 Correspondence 1927

re Invitation to Einstein of Rhodes Memorial Lecturership.

Cherwell was asked by the Trustees to extend an invitation to Einstein for 1928. In his replies Einstein hoped to accept, but later declined for reasons of health.

D.55 Correspondence 1930-31

re Renewed invitation to Einstein of Rhodes Memorial Lecturership; Einstein at first declined because dillhealth but Cherwell met him in Berlin in 1930 and arranged a visit to Oxford for April 1931.

Includes a 3 pp. outline of Einstein's life and work, prepared by Cherwell.

D.56 Correspondence 1931

Mainly re Einstein's visit to Oxford as Rhodes Lecturer, during which he stayed in Christ Church; includes some scientific material, and information on the state of Germany, and invitation to Einstein to visit Christ Church on a regular basis.

D.57 Correspondence 1932-33

With Einstein and colleagues re visits and lectures. Includes some material re Einstein's departure from Germany. Cherwell's letter of 4 May 1933 discusses the possibility of helping Jewish refugees to work in Oxford; Einstein offers 'ein Drittel' (one third) of his income towards helping refugee scientists in his letter of reply (7 May).

D.58 The Herbert Spencer Lecture.

Delivered by Einstein at Oxford in Trinity Term 1933.

Includes: Invitation to give lecture, and acceptance.

1 p. ms. notes by Einstein.

Introductory remarks and 9 pp. typescript with ms. corrections of lecture 'On the Method of Theoretical Physics'.

- D.59 Three lectures on 'The Outlines and Outstanding Problems of the Theory of Relativity', given by Einstein at Oxford.

  Includes Einstein's ms. and typescript plan for lectures, 3 pp. Summaries of the three lectures, typescript with ms. corrections by Cherwell and Einstein.
- D.60 Correspondence with Cherwell arising out of Einstein's visits, requests for information, etc. 1931, 1932

  Letter from Vice-Chancellor of Oxford, hoping Einstein could give Romanes Lecture for 1935.
- D.61 Correspondence re Income Tax payable by Einstein in respect of his Research Studentship at Christ Church, 1932.
- D.62 Miscellaneous invitations and appeals addressed to Einstein on his visits to England, from individuals, societies, etc.

  Some with Einstein's reply. 1932, 1933

(Cherwell arranged, at Mrs. Einstein's request, to provide secretarial assistance for Einstein, who was too modest to ask for such help himself.)

D.63 Correspondence 1934-35

Letters from Einstein re political situation in Europe, and re Jewish refugee scholars in need of assistance.

D.64 Correspondence 1938

Mainly re a portrait of Einstein by Liebermann.

D.65 Correspondence 1941

re Siegfried Rothschild, a German Jewish refugee chemist interned in the Isle of Man, for whom Einstein requested assistance.

D.66 Correspondence 1944

re books for the Hebrew University at Jerusalem.

D.67 Correspondence 1945

1947 re Emergency Committee of Atomic Scientists.

D.68 Correspondence and papers re Cherwell's obituary notice of Einstein prepared for The Daily Telegraph, February-April 1954.

Includes several texts, additions, amendments, etc. of the obituary, and Cherwell's letter refusing payment and returning cheque.

D.69 Correspondence 1955

Requests to reproduce Cherwell's obituary of Einstein, or for information about him.

	The state of the s		
D.70	Ellis, F.	1950	
	re Radiotherapy at Oxford.		
	Includes a letter from A.D. Gardner.		
D.71	Evelegh, V.	1944	
	Evetts, J. F.	1944	
	On detection of mines by dog	s.	
D.72	Fajans, K.	1935	
	Felix, A.	1933	
D.73	Finlay-Freundlich, E.	1949	
D.74	Fleischer, R.	1913, 1924	
	Scientific and personal corres 'Dear Boy', 'Dear boy, Docto 'Lieber Peach'.	pondence, variously addressed or and Professor in spe', and	
D.75	Fletcher, W.	1926-31	
	re Light Committee, and work treatment of tumours.	on X-ray tubes for	
D.76	Florey, H. W.	1938-44	
	Fowler, A.	1920	
	re Paper by M.N. Saha.		
D.77	Franck, J.	1913-33	
	Scientific and personal corres invitation to Franck (1933) to at Wadham College should he	accept a Research Fellowship	
D.78	Frank, Ludwig	1936-40, 1950-56	
	Scientific and personal corresponding with Frank in radioactive med ments for him to settle and prawas a brother-in-law of F.E. S	ical research, and arrange- actice in England. (Frank	
D.79	Freeth, F. A.	1927	
	Fucks, W.	1950	

D.80	Gabor, D.	1956
	Gäng, K.	1936-37
	Arrangements to settle in Eng	land.
	Gallop, J. W.	1950, 1951
	On cyclotron.	
D.81	re Gemant	1933
	Arrangements to work in Oxfo	
	Gilchrist, L.	
		1920
	Gill, E. W. B.	1937, 1950, 1954
D.82	Goodrich, E. S.	c.1934
	Grad, H.	1950
	Gratias, O. A.	1933
D.83	Griffin, F. A. and others	1954
	re Awards for services to inter	national aganisations.
D.84	Griffith, I. O.	1929-41
	Miscellaneous correspondence and affairs of the Clarendon I	
D.85	Griffiths, J. H. E.	1939
	(includes letter from G.P. Th	omson, 1938, re Griffiths)
	Grigg, P. J.	1933
	Guchnik, P.	1931
	Gueben, G.	1948
D.86	Haber, F.	1933-34
	Arrangements for him to settle correspondence re H. Kallmar	
D.87	Hahn, A. F.	1938
	(Son-in-law of Nernst.)	
	Requesting reference from Che in London.	erwell to assist in settling
	See also D.32, D.170, D.172	

D.88	Halban, H. and others	1945-54
	Scientific and personal corres	spondence with and re Halban.
D.89	Hall, E. H.	1929
	On Boltzmann's formula.	
	Hamilton, H.	1933
	Hammick, D. LI.	1920
	Hardy, G. H.	1936
	Requesting help far refugee sc	ientists.
D.90	Hartley, H. B.	1930, 1940, 1944, 1954
	Harvey, J. D.	n.d.
	Cherwell's carbon only.	
	Herzog, R. O.	n.d.
	Hinshelwood, C. N.	n.d., 1948, 1955
D.91	Hirschlaff, E.	1933
	Houtermans, F. G.	1933
	re Funds for Szilard.	
D.92	Hudson, T. C.	1931
•	Hume-Rothery, W.	1928-43
	General correspondence on res Various dates.	search, grants, accommodation.
	Hurst, C.	1931
	Cherwell's carbon only.	
D.93	Imperial Airways Limited	1934
	re High altitude flying.	

D.94-D.113 Imperial Chemical Industries Limited (I.C.I.), 1931-56

Cherwell was a member of the firm's Research Council until 1939, when his official position obliged him to resign. In addition to giving his advice and collaboration on various research projects with the firm's laboratories, Cherwell was a personal friend of successive Chairmen and officials, and in particular of Sir Harry (later Lord) McGowan and members of the Mond and Melchett families. These personal contacts enabled him in 1933 to obtain the agreement of McGowan to his journey to Germany to interview Jewish scientists wishing to leave the country, and the later financing by I.C.I. of research posts for such refugee scientists, at Oxford and elsewhere. After the Second World War, I.C.I. continued its contribution to research at Oxford and elsewhere through the provision of I.C.I. Fellowships (D.111, D.112).

The material includes a few personal exchanges as well as information about research projects, personnel, etc. The correspondence in the 1930s is mainly with McGowan; during the 1940s there are substantial exchanges with Melchett (Henry Mond) on various offensive and defensive weapons under research and development by I.C.I.

The material is presented chronologically, with a brief indication of content. The correspondence is indexed.

For correspondence and papers on wartime projects, see Section G.

For personal and social correspondence with members of the Mond and Melchett families, see Section K.

D.94 1930-31

There is no surviving correspondence dated 1932.

D.95 1933

Two envelopes of visiting cards of German scientists, almost all with ms. notes by Cherwell on their specialities, languages, salaries, family circumstances, etc. Probably collected by Cherwell during his journey to Germany to interview and negotiate with scientists wishing to leave the country.

Correspondence and papers.

Includes authorisation and arrangements for Cherwell's journey to Germany, list of Jewish scientists to be supported by I.C.I. in Britain, etc., also general correspondence on research projects.

D.96 1934

Correspondence and papers.

Includes memo. by Cherwell and Rintoul to the Chairman (McGowan) 'On the employment of foreign scientists', 24 July 1934.

D.97 1935

One letter only.

D.98 1936

Correspondence and papers, comments on research proposals, preparations for war.

D.99 1937

Correspondence and papers.

Includes correspondence re Oxford University Appeal, and memo. by Cherwell on appropriate research for I.C.l. to pursue (26 June), and some personal correspondence.

D.100 1938

Correspondence and papers, mainly re research.

Includes copy of Cherwell's letter to Lady Mond on the death of Sir Robert Mond, stressing his financing of Jewish refugee scientists and especially the work of K. Mendelssohn (29 November).

D.101 1939

Correspondence re dissolution of I.C.I. Research Council and offering Cherwell appointment (declined) as special consultant.

D.102 1940

Correspondence with Melchett, re cartridges, etc.

D.103 Typescript report by Melchett on his visit to the United States, 29 October 1940.

D.104 1941

Brief correspondence with McGowan, re F.E. Simon's cessation of work for I.C.I. on taking up war work.

#### D.105-D.108 1941

Correspondence, reports, notes of meetings and discussions on various wartime projects and weapons, including the 'Straw Pulp' process for animal toodstuffs, the 'sticky bomb', Bombard, anti-gas ointment, various explosives, nuclear bomb, etc.

- D.105 January-March. Includes also notes from Melchett on the behaviour of Jews in the London blitz, and on the relations between government and industry in America.
- D.106 April-May.
- D.107 July-October. Includes memo. and costing of 'uranium bombs', and a letter on the launching of 'Endeavour'.
- D.108 October. Brief correspondence re deferment of I.C.I. personnel.
- D.109 1942

Correspondence and papers, mainly re economic policy and post-war cooperation with America.

D.110 1943

re 'P.I.A.T.' (Projector, Infantry, Anti-Tank).

D.111 1944

Includes papers re I.C.I.'s proposals to establish I.C.I.
Fellowships in scientific subjects at nine British universities.

See J.54 for correspondence and papers, 1944, from Melchett re the situation in Palestine.

D.112 1945

Includes material re I.C.I. Fellowships, and printed Report on 'I.C.I.'s technical achievements during the war'.

See J.76 for correspondence with Melchett re economic affairs, Israel, etc., 1948

D.113 Miscellaneous shorter correspondence:

1947 re Bombard

1949 on Melchett's death

1956 on I.C.I. and Universities

D.114	India Office		1928-30	
	member of the	e committee 'to enquire into the future activities  Research Institute, Dehra Dun'.		
	Includes invital		reference, travel arrangements,	
D.115	Ingram, C.		1916	
	Institute of Physics	(various dates)	1933-56	
D.116, D.117	Jackson, D. A.	n, D. A.		
	Personal and scientific correspondence; includes some letters from Pamela Jackson.			
D.116	1929-41	Mainly scientific correspondence on research and career.		
D.117	1941-52	Mainly personal correspondence including arrangements for purchase and half-shares with Cherwell in Guernsey cows (see also A.107). Includes material re Cherwell's draft of account of 'Window' for Churchill's history of the war (see also G.348).		
D.118	Jeans, J. H.		1916, 1919	
D.119	Jeffreys, H.		1921 on meteors 1951 on history of 'packing fraction'	
D.120	Joachim, H.		1934	
	re possible work in England. Includes letters from G. Weinkler.		kler.	
D.121	Johnson, R. C.		1930-33	
D.122	Joly, J.		1926	

D.123- Jones, R. V. 1931-55

D.125 Scientific and personal correspondence.

Jones was an undergraduate at Wadham, and later as a research student at the Clarendon was responsible for work on infra-red radiation undertaken for the Air Ministry. His progress, described as 'remarkable' and 'excellent' (see D.123) led to his being appointed to the Scientific Research staff of the Ministry, to continue the work partly at the Clarendon Laboratory and partly at the Royal Aircraft Establishment, Farnborough.

Jones did important work in scientific intelligence at the Air Ministry, notably on radio and radar counter-measures, from 1939.

D.123 1931, 1936-37

Includes correspondence re infra-red radiation research and Jones's appointment, and a copy of his 'Interim report on the detection of infra-red radiation from aeroplanes', 22 March 1936, which attracted very favourable attention.

Also included here is Cherwell's letter to Wimperis (Secretary, Air Ministry), 11 December 1935, suggesting that Jones should undertake the work.

D.124 1942, 1945-48

Includes copy of Jones's report on 'A new infra-red spectrometer', 10 June 1945, correspondence re his appointment to the Chair of Natural Philosophy, Aberdeen, and copy of a letter from Churchill requesting details of the 'most memorable episode' when Jones advised him of the 'beam danger'.

D.125 1951-55

Scientific and personal correspondence.

D.126 Kallmann, H. 1933-34

Correspondence with Kallmann, scientific colleagues and financial supporters re Kallmann's coming to work in Britain. Although space and funds were forthcoming, Kallmann proved cavalier and hard to please, and the offer lapsed.

D.127 Katzenstein, R. 1928-33

D.128 Kay, R. H. 1957

D.129-D.134 Keeley, T. C. 1919-55

Scientific and personal correspondence.

Keeley was one of Cherwell's oldest colleagues at the Clarendon and at Wadham College, Oxford. He was Cherwell's second-in-command at the Clarendon and shouldered much of the routine administration during Cherwell's absences and especially during the Second World War.

D.129 1919 (Keeley's acceptance of post at Oxford), 1928, 1929

D.130 1930-39

Includes arrangements for arrival of K. Mendelssohn, 1932, and plans for wartime research teams at Clarendon working on Admiralty contract (1939).

D.131 1940

Research and administration of the Clarendon Laboratory, mainly wartime projects and contract work.

Letter of 12 September discusses keeping chickens near the laboratory to ensure fresh eggs for Cherwell.

D.132 1941-44

Correspondence on research projects and administration at the Clarendon Laboratory.

D.133 1943-44

Correspondence re recommendation of Keeley for an honour (the C.B.E. was awarded in 1944).

Includes accounts by Bowra, Cherwell and others of Keeley's work at the Clarendon Laboratory.

D.134 1947-55

Correspondence re research and administration at the Clarendon Laboratory.

Includes correspondence re a portrait of Keeley painted for his 60th birthday and presented to him on 16 February 1954.

D.135-D.138 King, E. Bolton

1928-56

Bolton King was a Duke of Westminster Research Student of Christ Church and closely associated with Cherwell before the Second World War, particularly with reference to the Oxford Instrument Company set up to produce photoelectric cells. During the Second World War Bolton King worked on proximity fuzes, and in 1947 he was appointed Director of the Science Department of the British Council; details of his career can be found in the references provided by Cherwell in D. 138, D. 234.

There are also a few letters from O. Bolton King (father).

See B.106, C.54 for further material relating to the Oxford Instrument Company.

D.135 1928-37

D.136 1938-40

> Includes material re Cherwell's proposed visit to America in 1938, and re various wartime contracts and projects, particularly on proximity fuzes.

See also correspondence with G.C. Simpson, D.234. See also G.393, G.394.

D.137 1942-46

> Includes some personal correspondence re Cherwell's standing as god-father to Bolton King's daughter.

D.138 1947-56

> Mainly personal correspondence re appointments; also includes material re winding-up of Oxford Instrument Company.

> > 1955

D.139 Koch de Gooreynd, T. 1935

D.140 Köhne, E. 1944

> Kommerz, R. K. 1938

> > re and including letter from Friedrich Kottler.

D.141 Kraitchik, M. 1953

re prime numbers.

D.142 Lange, F. n.d. Lenihan, J. M. A.

octom ne correspondence				
D.143	Lennard-Jones, J. E.	1930, 1944		
D.144	Lewis, W. C. McC.	1920		
	Liebermann, M.	1941		
D.145-D.147	Lindemann, C. L.	1939-43		
Paris, 1939-40, and at the		on Officer at the British Embassy, Pitish Embassy, Washington, of Counsellor from January 1942.		
	wartime projects, weapons, e U.S.A. and of Anglo-Americ	The correspondence includes discussion of various ideas for wartime projects, weapons, etc., and news of visitors to U.S.A. and of Anglo-American joint projects. C.L. Lindemann's letters are often long and informative and include some		
	See A.95-A.97 for additional C.L. Lindemann.			
D.145	1939-April 1940			
	Includes press-cuttings, material remines.			
D.146	July 1940-1942			
D.147	1943-1944			
	See also H. 172			
D.148	London, H.	1933		
re arrangements to work in Oxford.				
	Includes some correspondence re Fritz London (brother).			
D.149	Lorenz, H. A.	1913, 1914		
	Lovell, A. C. B.	1948		
	re Meteors.			
D.150	Ludlam, E. B.	1930-31		
D.151	MacDonald, D. K. C.	1951, 1954		
	MacGregor-Morris, J. T.	1952		
	McKerrow, G.	1923		

Scientific correspon	den	ce
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D.152 Mc Lean, R. 1941 Mac Lennan, H. 1954 re Radioactive gauze swabs. McNeill, K. G. 1951, 1955 D.153 Maggini, M. 1931 March, -1933 Cherwell's carbon only. Matthias, A. 1929 Mayer, E. 1933 re help for a German scientist. D.154 re Meitner, L. 1938, 1949 Miscellaneous correspondence (both dates) re possible arrangements for Meitner to work in Britain.

D.155 Mellanby, E. 1940, 1942

Includes correspondence 1942 re a suggestion of the Duke of Devonshire that St John's Wort might be a feature in night blindness.

D.156 Mendelssohn, K. 1933-46

Scientific and personal correspondence.

Mendelssohn was one of the distinguished Jewish scientists who left Germany in 1933. He worked in low-temperature physics and other projects at the Clarendon Laboratory.

Mendelssohn was supported by one of the I.C.I. grants, and later by a personal grant from Sir Robert Mond. Cherwell's letters of 29 October 1936 and 1 May 1939 refer to these arrangements.

Includes a copy of a letter from Mond, November 1936. See also D.100, D.184.

D.157 Menger, W. 1931

D.158 Merton, T. R. 1926, 1940-43, 1947

Mainly correspondence with Merton and others re various wartime projects. Includes Cherwell's invitation (July 1942) to Merton to join M.D.I. as Honorary Scientific Adviser.

D.159 Meyer, S. 1920-31 Michelson, A. A. 1914 One letter only, re 'earth-tide experiment'. D.160 Milne, E. A. 1928-50 Personal and scientific correspondence, including Milne's appointment at Oxford, his research, various Oxford University matters, etc. D.161 Minns, W. 1952, 1955 Möglich, F. 1948 re Cherwell's paper on Planck. Molson, A. H. E. 1933 re Entry permits for Jewish refugee scientists and supporting Cherwell's initiative in the matter. D.162 Mond Nickel Company Limited 1939 Correspondence and papers, mainly re toxicity of Iron Carbonyl. Includes some printed matter re the Company and its activities. D.163 Mott, N. F. 1954 Brief correspondence re Philosophical Magazine. D.164 Moullin, E. B. 1936-42 Scientific and personal correspondence. Includes letter re Wykeham Chair of Physics, 1942. National Gallery of Art, Washington D.165 re Use of X-rays on works of art. Nature 1955 D.166 Needham, J. 1944 Mainly re Needham's Memorandum on an 'International

Science Co-operation Service', a copy of which is included.

D.167-D.172 Nernst, W. H. and others 1911-49

Cherwell worked in Nernst's laboratory in Berlin from 1908, as one of the team of scientists and research students investigating the specific heats of substances at low temperatures. Cherwell took his doctorate in Berlin in 1910 and published several collaborative papers with Nernst. Cherwell left Germany at the outbreak of war in 1914 but remained on very friendly terms with Nernst.

The correspondence deals with scientific and personal matters; the latter include Nernst's visit to Britain in 1937 and the conferment of an Honorary Degree at Oxford, and matters relating to Nernst's widow Emma and daughters Hilda (Mrs. Cahn, see D.32), Edith and Angela (Mrs. Hahn, see D.87).

See A.3 for material relating to Cherwell's studies in Germany.

The correspondence, most of which is in German, is presented chrondogically; it consists almost entirely of letters from Nernst, few of Cherwell's replies having survived. Many of the letters bear numbers and/or annotations added by previous users of the collection, and some have translations appended.

D.167 1911 (includes 3 pp. ms. only of a course of lectures on Einstein's quanta-theory, in English)

1913

1915 (re Nernst)

Included here are 4 undated pages of ms. calculations on gases by Nernst on the writing-paper of his Berlin laboratory.

D.168 1921-27

D.169 1931-34

Includes reference to Nernst's election as Foreign Member, Royal Society (1932), and to his 'Neo-Bechstein' piano (1934).

D.170 1935-39

Includes correspondence re Nernst's visits to Oxford in 1936 and 1937 (for Honorary Degree at Oxford), and re Cherwell's acting as Trustee for Nernst's granddaughter Ursula Hahn. (See also Cahn, H.)

D.171 1941

Cherwell's obituary notice of Nernst, for the Royal Society; proof with ms. corrections.

Included here is a 2 pp. undated note by Cherwell to a colleague, beginning 'Would you please save me from an immediate lapse into lunacy by pointing out what is wrong with the following ridiculous deduction from Nernst's Third Law?'

D.172 1946-49

Correspondence with and re Mrs Nernst and her daughters.

In 1946 Cherwell requested permission for Mrs Nernst (then aged 75 and recently escaped from the Russian zone of Germany having lost all her property) to come to Britain to live with her daughter and son-in-law Cahn (q.v.).

In 1947 he helped to facilitate the journey of Nernst's youngest daughter Angela (Hahn, q.v.) from Brazil to Britain to visit her mother.

D.173 Noetzlin, J. 1927-54

Scientific and personal correspondence.

Includes Noetzlin's notes on experiments conducted by him at the Clarendon Laboratory in 1925, and a letter re Noetzlin, 1942.

D.174 O'Gorman, M. 1932

re Cherwell's letter to The Times, May 1932.

Oppenheimer, H. F. 1952

D.175 Paneth, F. A. 1937-40, 1954

Scientific and personal correspondence, various dates.

Mainly on meteorites.

D. 176 Parker, K. T. 1955

re X-ray photography of paintings.

Parry, E. 1919

Pauling, L. 1948

Cherwell's carbon to Dean of Christ Church re Pauling's work, probably in connection with Pauling's tenure of George Eastman Professorship, Oxford, 1948.

Peierls, R. E. 1945

D. 177 Perrin, M. W. 1946 (Cherwell's carbon only), 1951-56

Includes Perrin's additional obituary note for F.E. Simon, 1956.

D. 178 The Physical Society and

The Physical Society Club 1933-52

General correspondence, including dinner for Einstein (1933), Guthrie Lecture by Cherwell (1935), obituaries of fellows, paper shortage (1947), etc.

D.179 Pilley, J. 1951

Pirenne, M. H. 1956

Plaskett, H. H. 1943, 1944

Two letters only, on wartime projects.

Plesch, J. 1938

re help for F. Ehrenhaft.

D.180	Pohl, R. W.	1912-14,	1937, 1950
	Scientific and personal co	orrespondence.	

D.181	Poskitt, F. R.	1933
	Includes a letter from R	. Whiddington.
	Poulton, E. P.	1931
	re X-ray tubes.	

Prichard, H. A.	1932
Pringsheim, P.	1912

D.182	Proudman, J.	1934-35
	Pryce, M. H. L.	1950
	Quilter, P. C.	1930-31
	re 'Radiostat' invention	

D.183	Rabinowitsch, E.	1933
	Arrangements to	come to England.

Radernacher, H. 1934

Rado was a mathematician who left Berlin in August 1933, and worked first in Cambridge before obtaining university posts at Sheffield, London and Reading. His financial support was originally provided by a personal grant from Sir Robert Mond, paid through Cherwell personally.

Correspondence is mainly with colleagues re support for Rado, and includes Mond's letter agreeing to 'fund a scholarship of £300' (1933); there is a little professional correspondence from Rado.

See D.156 for further material re Mond's support for refugee scientists by a private grant.

D.185 Raikes, H. R. 1936, 1940-41, 1950 Randall, J. T. 1949

 $\underline{\underline{re}}$  Inventors' Award for the cavity magnetron for Randall, Boot and Sayers.

	· Ottomine correspon	ridence	
D.186	Rapkine, L.	1942-43	
	re French scientists in United States, Canada and South America.		
	Includes Memorandum and bi 'how to utilise best our Frenc on this side'.	ographical information on ch scientists who are already	
D.187	Rayleigh, Lord	1915, 1921, 1926-27	
	Scientific correspondence; i pondence from Lady Rayleigh	ncludes a little social corres-	
	The early correspondence (19 R.J. Strutt (Rayleigh succeed	115) on fluorescence, is signed ded to the title in 1919).	
D.188	Reiche, Fritz	n.d., c.1933	
	A Jewish scientist at Breslau.		
D.189	Renwick, Lord	1945-46, 1951-56	
	Early correspondence is re wa		
	dio and Electronic Component re The Radar Association.		
D.190	Riley, D. P.	1954	
	Ritson, D. M.	1950	
	Roaf, D.	1940	
	re Work on magnetic resonance carried out under Admiralty contract at the Clarendon Laboratory.		
D.191	Robertson, R.	1919, 1934, 1937-38, 1945	
D.192	The Rockefeller Foundation	1935	
	2 letters only.		
D.193	Root, L.	1955	
	Rothschild, N. M. V.	1939-40, 1944	
	Various wartime projects.		
D.194	Rowe, A. P.	1936-45	
	re various pre-war and wartim	e projects.	
D.195	The Royal Aeronautical Society	1945-56	
	Miscellaneous shorter correspondence re membership and activities of the Society.		

D. 196 Royal Aircraft Establishment (R.A.E.)

1929, 1954-56

Miscellaneous correspondence on research, appointments, etc.

D.197 Royal Astronomical Society 1919, 1948-55

re Meetings and activities of the Society; correspondence 1948 deals with Cherwell's obituary notice of Lord Rayleigh and includes his typescript draft; correspondence 1951 invites Cherwell to accept nomination to Board of Management of the Isaac Newton Observatory.

See D.198.

D.198 Royal Greenwich Observatory 1949, 1955-56

Miscellaneous correspondence re meetings and members of Board of Management, Isaac Newton Observatory, on which Cherwell served as a Royal Society and later as a Royal Astronomical Society representative.

See D.197.

D. 199 Royal Meteorological Society 1932-33

re Cherwell's election to the Fellowship of the Society, sponsored by G.M.B. Dobson and S. Chapman.

D.200-D.214 The Royal Society

1919-57

Cherwell was elected to the Society in 1919, served on its Council and on various of its Sectional and ad hoc committees, published and refereed publications in its Proceedings, and participated in its meetings and elections.

The material, which is presented chronologically, covers all these aspects of the Society's activities. A brief indication of content is given where appropriate, and the correspondence is indexed.

D.200 1919-21

Meetings, papers submitted for publication, formation of National Committee in Physics (Cherwell was one of the Society's representatives), dinners for Sherrington.

D.201 1926-31

Cherwell's nomination to Council, publications, elections (includes Cherwell's recommendation of de Broglie as a Foreign Member, 1928).

D.202 1932

Meetings (includes draft of Cherwell's contribution to discussion on 'The Structure of Nuclei'), Fellowships, publications, elections.

D.203 1933-36

Meetings, Cherwell's nomination to Committee on exploration of stratosphere, elections, publications.

D.204 1938-42

Meetings, publications, elections, report of Committee on Symbols, Cherwell's Obituary of Nernst.

D.205 1943

Correspondence re F.W. Edridge-Green and colour vision.

D.206 1944

Committee papers and brief correspondence re Post War Fundamental Research Committee, on which Cherwell served.

D.207 1945

Correspondence, printed matter.

D.208 1946-49

Meetings, elections, research proposals; includes Cherwell's appointments to the Board of Management, Isaac Newton Observatory, the General Board, National Physical Laboratory, and the Paul Instrument Fund Committee (renewed 1953).

D. 209 1950-51

Termination of Cherwell's service on Gassiot Committee, his appointment to Sectional Committee for Physics, research proposals, publications, elections, printed matter re Committees, etc.

D.210 1952

Correspondence and printed matter re Paul Instrument Fund, Physics Sectional Committee, elections.

D.211 1953

Correspondence and printed matter re Paul Instrument Fund, Physics Sectional Committee, elections, publications, research projects, termination of Cherwell's service on Physics Sectional Committee.

D.212 1954

Termination of Cherwell's service on General Board, National Physical Laboratory, elections, publications, research projects.

D.213 1955

Elections, research proposals, publications.

D.214 1956-57

Elections, research grants and proposals, Memoir of F.E. Simon.

D.215	Rüchardt, E.	1933
	Letter of introduction for Bau	verwald.
D.216	Russ, S. and others	1933
	re Use of X-rays in medicine small X-ray tubes.	and Cherwell's invention of
D.217	Russell, H.	1921
	Russell, R. S.	1949
D.218	Rutherford, Lord	1914-21
	Scientific and personal corre	spondence.
	Rutherford was one of Cherwe Chair, to which reference is	ell's supporters for the Oxford made.
D.219	Ryle, G.	1942
D.220	Ryle, J. A.	1936, 1939
	Mainly re M. Ryle (q.v.)	
D.221	Ryle, M.	1939, 1946, 1948, 1955
	for Ryle at the Clarendon on	rbon only) refers to work planned short wireless waves, which he d to the Cavendish Laboratory,
D.222	Sampson, R. A. on Einstein's theories.	1917, 1921
D.223	Schilovsky, P.	1954

D. 224, D. 225 Schrödinger, E. and Annemaria Schrödinger 1933–39

Cherwell played a major part in assisting Schrödinger to leave Germany in 1933; Schrödinger settled in Oxford, where he was a Fellow of Magdalen College and also received financial support from I.C.I. and the Rockefeller Foundation. In 1936 he took up an appointment at Graz and in 1939 moved to Dublin as the first Professor of Theoretical Physics in the newly-formed 'Institute for Advanced Studies'.

The correspondence deals mainly with arrangements for Schrödinger's housing, financial support, etc., but includes some scientific material and references to Einstein, Cahn, etc.

D.224 1933-34

D.225 1935-39

Includes some material relating to Schrödinger's position under the German occupation of Austria, and his move to Dublin.

D.226 Schwers, F. 1912, 1913, 1915

Earlier correspondence refers to the collaborative paper Schwers and Cherwell published in 1913 (Phys. Z., 14).

Seely, J. B. 1926

On a mathematical puzzle, with Cherwell's ms. note of solution.

D.227 Sidgwick, N. V. 1921, 1931

Two letters only, on research projects.

D.228-D.233 Simon, F. E. and others 1933-57

After leaving Germany in 1933 with Cherwell's help, Simon worked in the Clarendon Laboratory, principally on low temperature research and on the separation of uranium isotopes by gaseous diffusion. He remained at the Clarendon for the rest of his life and had been appointed Cherwell's successor as Dr Lee's Professor of Experimental Physics and head of the Laboratory in 1956, but died of a sudden heart attack in October of that year.

Simon was one of Cherwell's most respected colleagues and a close personal friend; there are a few references to Simon's family with whom Cherwell was on friendly and unusually relaxed terms.

The correspondence deals with various scientific and wartime projects, conferences and publications, as well as some personal matters relating to Simon's settling in Britain, financial support, naturalisation, etc.

D.228 1933-38

Scientific and personal correspondence.

Includes arrangements for Simon to bring his apparatus with him when he settled in Britain, and 2 pp. undated note (probably by Simon) on 'Radioactive Measurements at Very Low Temperatures'.

D.229 November 1939-June 1943

Correspondence and papers on the possible use of liquid hydrogen as fuel for balloons or aircraft, mainly with D.R. Pye but includes Simon's memo. on subject sent to C.L. Lindemann, August 1940, and a further report by him on the subject, April 1942.

D. 230 May-November 1940

Correspondence and papers on isotope separation and heavy water preparation.

Includes letters from J. Chadwick, K. Fuchs, G.P. Thomson.

D.231 1940-57

Personal and scientific correspondence.

D.232 1956

Obituary tributes to Simon by Cherwell, and biographical information.

D.233 1956

Letters of condolence received by Cherwell on the death of Simon.

Scientific	correspondence	
14		

D.234	Simpson, G. C.	1938
D.235	Smith, R. A.	1955
	Sollers, W. J.	1933
	Sommerfeld, A.	1921, 1933
D.236	Southwell, R. V.	1935
	Spottiswoode, N. L.	1935
	Stern, O.	1933
	Stuart, J.	1956
	re Professorial salaries.	

D.237 Szilard, L. 1935-38, 1945

Correspondence on radium research and apparatus, 'double neutrons', etc.

Includes draft paper by Szilard and Griffiths 'Gamma Rays excited by capture of neutrons', January 1937, and a letter re Szilard from L.R. Groves, 1948.

D.238 Tansley, A. G. 1941

re proposed Society for Freedom in Science.

D.239 Taylor, G. I. 1916-21, 1944, 1951

Correspondence 1916-21 is on various aeronautical problems and includes some personal material (Taylor was one of the 'Chudleigh Mess' with Cherwell).

Correspondence 1944 is re Taylor's contribution to aeronautical research and various other projects during the Second World War.

Correspondence 1951 includes an interesting letter from Taylor deducing from a newspaper photograph of a test explosion in America the likely development of U.S. nuclear research at that date.

D. 240 re E. Teller (Letter from F.G. Donnan) 1933

Thirring, H. 1921

D.241 Thom, A. and others 1956

re M.K.S. units.

D. 242 Thomson, G. P. and others 1917-55

Thomson met Cherwell during the First World War as a fellow-member of the 'Chudleigh Mess', and remained on friendly terms; he was the author of the Memoir of Cherwell for the Royal Society (Biographical Memoirs of Fellows of the Royal Society, 4, 1958).

The early letters, c.1918-21, describe research in Cambridge, including collaborative work with F. W. Aston (q.v.) on isotope separation.

Correspondence 1936 refers to Thomson's serious illness.

Correspondence 1939-41 refers to various wartime projects including Thomson's appointment as Scientific Liaison Officer, Canada, and his wife's illness and death.

Correspondence with various members of Thomson's family is also included.

D.243 Tizard, H. T. and
Kathleen Tizard 1913-46

General correspondence on scientific projects, with a little personal material and letters from Kathleen Tizard.

Letters 1914-20 are very friendly in tone and often addressed to 'Dear Lindy'.

Correspondence 1939 includes the famous exchange about 'burying hatchets'.

D.244 Townsend, J. S. E. 1939

Includes correspondence with <u>Nature</u> re their note on Townsend's retirement, 1946.

Traube, J. 1936

Appeal for financial support to work in Britain.

D.245, D.246 Tuck, J. L. and others 1938-56

Tuck worked in the Clarendon Laboratory from 1936 with financial support from The Salter's Institute of Industrial Chemistry. During the Second World War he was Cherwell's personal scientific assistant, assisting especially in the design of shaped charge weapons. In 1944 he went to America to continue atomic research, and was involved in test explosions there, and in 1946 at Bikini. He returned to the Clarendon in 1947 but took up an academic post in America in 1949.

The correspondence deals with various aspects of Tuck's career and research, including various wartime projects, equipment, appointments, etc.

His letters for 1946 contain descriptions of the Bikini test.

See Section F for other wartime contributions by Tuck.

D. 245 1938-45

D. 246 1946-56

D. 247 Tufnell, E. B. 1919

Tufnell, L. 1945

D.248 Turner, H. H. 1915, 1920

D. 249 Tyndall, A. M. 1930, 1933-34

Correspondence 1933-34 refers to financial arrangements for Heitler.

D. 250 United Kingdom Atomic Energy Authority and
Atomic Energy Research Establishment, Harwell
1949–56

Correspondence re meetings, appointments, conferences and Open Days, etc.

D. 251 <u>re</u> F. Urbach 1938

Correspondence with Society for the Protection of Science and Learning.

D. 252 Valcarenghi, A. D. 1932

Veblen, O. 1946

re visa for Helene Braun.

D. 253 Vickers, D. 1919-36

Correspondence re financial support for research at the Clarendon Laboratory, and various research problems and projects.

See also B.4.

D. 254 von Engel de Janosy, A. 1952-57

von Laue, M. 1934, 1948, 1952

D.255 Walls, R. R. 1945

Walz, H. 1949

Requesting help for a German scientist prisoner of war.

D.256 Watson-Watt, R. 1941, 1950, 1952, 1956-57

Mainly re radar, and Watson-Watt's intention to work in Canada.

Included here is a letter, March 1945, from Secretary of State for Air re possible appointment of Watson-Watt as Scientific Adviser to the Air Ministry.

D. 257 Weissberger, A. 1936

re Cherwell's help in his coming to Oxford.

D. 258 Weizmann, C. and others 1939-42, 1944

Correspondence, reports, memoranda, committee papers re research proposals by Weizmann. These concerned:

- (a) Fermentation process for 100 octane ketones from carbohydrates;
- (b) Cracking process for producing toluene from petroleum.

Includes correspondence with Mountbatten, strongly advocating support for Weizmann's proposals, and a later letter, 1944, from Cherwell to Ernest Bevin on an alcohol fermentation process by Weizmann.

D.259 Westphal, W. M. 1914

White, J. C. 1944

Cherwell's carbon only.

Whiddington, R. 1919

Whitehead, J. H. C. c.1934

D.260 Whittaker, E. T. 1949-50
Mainly on Eddington.

D.261 Wilson, R. 1950-51

D.262 Wimperis, H. E. 1939, 1941

Correspondence 1939 on pilotless aircraft; correspondence 1941 on underwater explosions and re G.I. Taylor (q.v.).

D. 263 Windaus, A. O. R. 1933

Plans for coming to England.

Winternitz, P. 1938

Request for help in emigrating.

Wood, R. W. 1944

Includes photographs of jet from fixed hollow charge.

D.264 Wright, E. M. 1938-57

Correspondence, drafts, etc. on mathematical problems.

Cherwell regarded Wright as his 'father confessor' and submitted his calculations and draft papers on primes for comment.

A little personal correspondence is included.

See C.73-C.75, C.77 for other work by Cherwell on mathematics.

D.265 Wrinch, D. 1935

Includes Cherwell's recommendation for a Research Fellowship for Dr Wrinch, 1939.

D.266 re Záček, A. 1948

Letter from R. Furth asking help for Žáček and other Czech professors.

SECTION E	PUBLICATIONS, LECT	URES, SPEECHES	E.1 - E.137	
	(Including letters to	the Press)		
			Pag	је
E.1 - E.21	SCIENCE	c.1925 -	- 57 12	0.
E.22 - E.60	POLITICS	1926 -	- 57 12	23
E.61 - E.103	EDUCATION	1931 -	57 12	8
E.104-E.137	INVITATIONS AND CORRESPONDENCE	1919 -	57 13	3

The material is of heterogeneous nature, including drafts or notes for Cherwell's own speeches, lectures or articles, his many letters to the national and local newspapers, his contributions to debates in the House of Lords, and his memoranda and minutes to ministers or government officials. Each sub-section is presented in chronological order so far as this is ascertainable; correspondence relating to a particular item has been left in place.

It should be noted that most of the drafts or fair typescripts for Cherwell's speeches in the House of Lords, 1941 - 57, were destroyed in April 1965 during a previous sorting of his papers. A note made at that time explaining the decision appears at E.22.

See Sections F, G, H and J for many other official memoranda and minutes prepared by Cherwell.

The miscellaneous correspondence in this Section (E.104 - E.137) includes letters from editors of journals and newspapers, radio producers, publishers, conference organisers, etc. inviting Cherwell to speak, write or attend meetings. He received several requests to write his memoirs, or his recollections of Churchill, all of which he refused.

Several of the later invitations are from schools and educational establishments, and reflect Cherwell's advocacy of an expansion in technological and scientific

education. Much of the material from 1950 onwards is concerned with this, and includes (E.97, E.98) the various projects for the promotion of higher technological education with funds from the Churchill 80th Birthday Trust, and (E.100) the draft for a speech or article on the subject, on which Cherwell was working immediately before his death in July 1957.

For further correspondence and papers on the organisation of scientific and technical research see G.526 - G.533.

E.1-E.21	SCIENCE
E.1	Ms. draft for untitled talk on the role of science in society. n.d.
E.2	Ms. and typescript draft for talk on progress in science and invention. n.d., c.1925.
E.3	Letters to Daily Telegraph and The Times, on the high cost of radium, May 1929.
	Includes correspondence, and a request for an article on radium for The Times.
E.4	Correspondence arising from a letter by Cherwell to The Times on the curvature of space, May 1932.
E.5	Ms. draft for a lecture on 'Splitting the Atom', perhaps given at Oxford for a visit by Churchill. (Includes introductory remarks about Churchill.)
	5 pp. (incomplete). n.d.
E.6	Paper on electromagnetic induction, prepared for F.E. Smith, as information for engineers. Sent with a covering letter, February 1938.
	8 pp. typescript + 1 fig.
E.7	Short article on low temperature research at the Clarendon, with a ms. note 'Dictated for News Chronicle, Feb. 11th 1938'.
E.8	Article on biological adaptation. Probably prepared for Churchill.
	12 pp. typescript. 1938.
E.9	'The River of Life'. On evolution of the earth.
	13 pp. typescript with ms. corrections, October 1938.
E.10	Anecdote on a 'Death Ray', perhaps for newspaper publication. c.1945

E.11 Contribution to 'Science Survey', a series on B.B.C. Light Programme, 1946.

Cherwell took part, with Andrade, Robinson and Le Gros Clark, in 'An Oxford Session', 5 July.

Transcript of broadcast.

Schedule of complete series.

Correspondence re broadcast, and re publication of the series; Cherwell refused a fee for his participation.

See also C.76.

E.12 2 pp. comment on proposed combined school of science and philosophy at Oxford.

Contributed to Universities Quarterly, June 1947.

E.13, E.14 Review of P.M.S. Blackett, 'Military and Political Consequences of Atomic Energy', 1948.

Written for Daily Telegraph.

and Article, 'Britain's red scientists', published in <u>Sunday</u> <u>Dispatch</u>, January 1949.

E.13 Copy of drafts for both articles, with covering letter.

Proof copy of Sunday Dispatch article.

E.14 Correspondence arising from Cherwell's review of Blackett's book, 1949.

E.15 Article on low temperature research at Oxford, for The Times 'Progress in Science' supplement, 1950.

6 pp. typescript with ms. corrections.

Editorial correspondence.

E.16 Speeches to Society of Chemical Industry, July 1954.

Cherwell received the Messel Medal of the Society, delivered the Messel Lecture (not included) on the importance of technology and fundamental research to industry, and also spoke at the lunch and the dinner given on the occasion.

Continued

E.16 (cont'd.)

Notes for speeches.

Correspondence re visit and publication of Messel Lecture.

Includes a letter from E.B. Chain endorsing Cherwell's views on technological training.

See also A.67.

E.17

'Close to absolute zero'.

Letter to The Times on research at the Clarendon Laboratory, October 1954.

(Press-cutting.)

E.18

'Physics and Philosophy'.

The first Robert Grosseteste Memorial Lecture, delivered in the Chapter House, Lincoln Cathedral, 21 May 1955.

Correspondence with Dean re delivery and printing of lecture.

Correspondence with O.U.P. re printing and circulation of lecture.

Copy of published version.

E.19, E.20

Contribution to brochure prepared for the Jubilee of the Royal Aircraft Establishment, Farnborough, 1955.

Cherwell's essay contained recollections of the 'Chudleigh Mess', and his work on spinning flight, bombsights, etc.

E.19 Typescript and ms. draft.

E.20 Correspon

Correspondence and drafts re essay and photographs.

See also A.10-A.17, C.11-C.31.

E.21

Tribute to J.S. Townsend, for Oxford Mail, February 1957.

Miscellaneous notes, headings, anecdotes and material for talks or articles.

E.22-E.60	POLITICS	
E.22	Note on the destruction of Cherwell's drafts for speeches in the House of Lords, agreed during the sorting and classification of the Cherwell papers in 1965.	
	The note is enclosed in a folder originally used to contain correspondence from the general public on food shortages (see J.73). The folder bears on the inner flap a ms. note of the destruction of similar material during the 1965 review.	
E.23	Letter to press, on the General Strike, no indication of publication.	26
E.24	Ms. drafts for articles or letters to press on the coal industry. n.d.	28
E.25	Letter to <u>The Times</u> , on German sequestration of British- owned property.	29
E.26	Typescript and ms. article on war, n.d. Perhaps by, or prepared for, Churchill.  11 pp.	
	11 pp.	
E.27	Letters to The Times, 1933.	
	On Lord Birkenhead (February).	
	On terms of Versailles Treaty (October, two letters).	
E.28	Three letters to The Times, August 1934.	
	On air defence.	
E.29	Ms. notes and drafts for a speech, probably at the Oxford Union, opposing the motion 'That the return of the National Government to power at the next General Election would promote neither permanent recovery nor social justice'. n.d. c.19	35
E.30	Talk to 1922 Committee, on air defence.	35
2.00	13 pp. typescript.	
	Another copy of this talk appears at F.7/1.	
	Anomer copy of this lank appears at 1.7/1.	

E.31	Letter to press, on air defence, February 1935.
	Included here are letters from readers re a letter by Cherwell on air defence published in the Daily Telegraph, May 1935, with suggestions for inventions and devices.
E.32	Paper on German rearmament prepared in refutation of the arguments of Professor Bone, and probably intended for Churchill.
	There is a ms. date 'J.30th '36'.
	12 pp. typescript.
E.33	Speech to the Bryce Club, on the origins of war.
	13 pp. typescript.
	Includes letter of thanks for talk, April 1936.
E.34	Letter to <u>Daily Telegraph</u> , on 'Battleship versus Aeroplane', February 1936.
E.35	Draft for speech on international situation, with a ms. note 'Sent to Lord Lloyd'.
	13 pp. typescript. n.d. c.1936
E.36	Article on air rearmament, for <u>Evening Standard</u> , October 1936.
	Included here is brief correspondence from readers on a previous article by Cherwell, 'London's Peril from the Air', published in Evening News, 10 June 1936.
E.37	Article on the kite-balloon barrage, for Evening Standard, 16 February 1937.
	Letters from readers <u>re</u> article and with suggestions for inventions and devices.
E.38	Letter to Daily Telegraph, on air fleet, February 1937.
E.39	Article on possible future scientific inventions, prepared for Churchill and sent with covering letter, October 1937.
	13 pp. typescript.
	Included here is 1 p. typescript note on dangers of war, September 1937. Perhaps by Churchill.

	robiteditors, fectores, speeches	
E.40	Article on air defence, for Daily Telegraph, October 19	738.
E.41	Letter to press, on air raid precautions and air defence, n.d.  1 p. only, perhaps incomplete.	c.1938-39
E.42	Letter to The Times, on National Service for Scientists, July 1945.	
	Letter to Daily Telegraph, on scientific man-power, De	ecember 1945.
E.43	'Headings for talk to the Progress Trust on Atomic Energ	у'.
	3 pp. n.d.	c.1946
	7 pp. draft talk on atomic energy, n.d.	c.1946
E.44	Letter to The Times, on British policy in Germany, November 1946.	
	With a letter from L.S. Amery approving Cherwell's views.	
E.45	Letters to The Times, on 'Food then and now', February April 1947.	<b>/-</b>
	With a little editorial correspondence.	
	Also included here is correspondence declining payment for an article 'Why is Britain worse fed than in Wartime?', which appeared in The Daily Telegraph, February 1947.	
E.46	Article on inadequate food supplies, published in Evening Standard, 4 June 1947 under the headline 'We are not getting enough to eat'.	
	Includes invitation to write article, letter of thanks.	
E.47	Letters to The Listener, on food supplies, May-June 194	48.
	Included here is an undated draft, perhaps for an Oxford newspaper, defending the allotments in the University Parks.	
E.48	Letter to The Times, on methods of selection for the Civil Service, June 1948.	
	Letter to The Times, on coal production, September 194	8.

E.55

	Publications, lectures, speeches
E.49	Letter to The Times, on Finance Bill, May 1949.
	Ms. and typescript versions.
E.50	Letter to press, on food supplies, January 1950.
	Three letters to The Times, on petrol rationing and currency, February-March 1950.
E.51	3 pp. tribute to Churchill. n.d. c.1951
	Note on M.W. Perrin, for Daily Telegraph, June 1951.
E.52	Speech to Institution of Structural Engineers, March 1954.
	Notes for speech.
	Correspondence and previous invitations, 1951-54.
E.53	Article on nuclear weapons and disarmament, for Look magazine, August 1954.
	14 pp. typescript with a few ms. corrections.
	6 pp. typescript version, with two additional concluding paragraphs.
	Invitation to write article.
	See also A.128.
E.54	Letter to The Times, on deferment of national service for scientists, August 1955.
E.55-E.59	Speeches and writings on United Nations Organisation, 1956-57.
	Mainly re Cherwell's speeches in the House of Lords on 'Some Defects of U.N.O.' (11 December 1956) and 'United Nations Assembly and the Middle East' (10 April 1957).

Hansard reports of speeches; arrangements for time and wording of question put by Cherwell, March 1957; draft

letters to and from colleagues on subject.

E.56-E.58 Letters, mainly from U.S. readers of Cherwell's speech of 11 December, which was reproduced or discussed in several U.S. journals; some accompanied by articles, background information, etc. 3 folders as follows:

E.56 B-G

E. 57 H - O

E.58 P-T

Not indexed.

E.59 Letters to The Times, on United Nations, February 1957.

A ms. draft continuation in reply to correspondence in The Times arising from above, n.d.

1957

E.60 Letters to The Times, on nuclear bomb tests, May 1957.

E.61-E.103	EDUCATION	
E.01-E.103	EDOCATION	
E.61	Letter to The Times, on scientific education, March 1931	
	With a letter to the Editor regretting the letter was not published.	
E.62	Article on the importance of financial support for scientific research, written for Oxford University Appeal, 1936.	
	Typescript drafts.	
	Correspondence.	
E.63	Correspondence and papers, 1938.	
	Re possible methods of avoiding premature specialisation by candidates for Oxford University.	on
E.64	Draft letter to press, on comparative expenditure on scientific research in U.S.A., Germany, Russia and Britain. n.d.	1938
E.65	Draft letter to press, on science, with ms. comments by I.O. Griffith, June 1938.	
E.66	Article on the importance of scientific research in the national life, for The Oxford Magazine, March 1939.	
	Typescript draft.	
	Invitation to write article.	
E.67	Letters re science and education.	1942, 1946
E.68	Letter to The Times, on need for increased science teaching, August 1946.	
	(Referred to in correspondence with E. Orowan in E.69	·.)
	Included here is brief correspondence re the letter, May 1947.	
E.69	Correspondence with E. Orowan, on education for engineering.	1946-47
E.70	Letters to The Times, on technological universities, November and December 1949.	

E.71 Shorter correspondence and papers on technological education, 1949.

E.72 Correspondence 1950.

Mainly arising from 'The Case for the Technical University' reprinted from The Times Educational Supplement, January 1950 (Cherwell contributed an article 'Demands of Modern Engineering'), a copy of which is included.

Includes copies of letters sent by Cherwell to colleagues urging on them the requirements of technological education, and editorial correspondence re the T.E.S. article.

E.73 Correspondence and papers re Conference on Higher Technological Education, held at Royal Society, March 1950 and organised by Tizard.

Cherwell gave a short 'statement of the case for an Institute of Higher Technology'.

Includes invitation, agenda, correspondence with participants, note of conclusions of meeting by J.D. Cockcroft.

E.74 Correspondence and papers re one-day conference on education, organised by Federation of British Industries, at Rhodes House, Oxford, October 1950.

Cherwell attended as a representative of Oxford University, and spoke.

Includes Cherwell's contribution to discussion and brief editorial correspondence re its publication.

Also included here is a letter re a similar conference at Regent Street Polytechnic, October 1950, which Cherwell attended.

E.75 Letter to The Times Educational Supplement, on technological university, October 1950.

Earlier draft for similar letter, n.d.

E.76 General correspondence on technological education, 1951.

Includes a letter from McGowan with a copy of a speech by him on 'The Collaboration of Universities and Industry in the Moulding of Scientific Progress'.

E.77	Copies of notes by Cherwell to ministers re technological education and correspondence arising, November-December 1951.
E.78	Correspondence 1952, mainly with ministerial colleagues, re financial support for technological education, and siting of university departments selected for expansion.
	Includes a Minute by Cherwell to Prime Minister on the subject, November 1952.
E.79	Correspondence and papers on technological education and the siting of expanded technological university departments, 1953
E.80	Address by Cherwell to Institution of Electrical Engineers, February 1953.
	7 pp. typescript and ms.
E.81	Correspondence April 1953, mainly ministerial exchanges of letters and views about the Further Report on Higher Technological Education by the University Grants Committee, issued on 27 March, a copy of which is included.
	Those principally involved are R.A. Butler, Lord Woolton, Lord Salisbury, J. Stuart.
E.82	Correspondence May-July 1953, re meetings and exchanges of views on U.G.C. report and matters arising.
E.83	Two talks by Cherwell on the teaching of physics, 5 pp. and 6 pp. n.d. c.1954
E.84	Correspondence and papers, 1954, mainly with former ministerial colleagues (Cherwell resigned from the Cabinet in 1953).
	Includes Hansard, 7 December 1954, covering House of Lords debate on Higher Technological Education in which Cherwell spoke.
E.85	Correspondence and papers 1954, mainly re Royal Technical College, Glasgow, which Cherwell hoped would be designated as one of the new Technological Universities and to which he referred in his speech in the House of Lords in E.84 above.
E.86	Correspondence and papers 1954, mainly information and opinions on technological education sent to Cherwell by colleagues.

E.87	Letter to <u>Sunday Times</u> , on need for technological university, May 1955.
E.88	General correspondence re technological education, deferment of national service for scientists, etc. 1955
E.89	Minute on technological education, prepared for Prime Minister (Sir Anthony Eden), December 1955.
	Includes text of note as circulated to Cabinet, January 1956, and Cherwell's letter to R.A. Butler on subject.
E.90	Letter (not for publication) to the Editor, <u>Daily Telegraph</u> , on technological education, January 1956.
E.91	Two letters to Oxford Magazine on technological education, February and March 1956.
	Draft for similar letter to Oxford Magazine, n.d.
	Letter to The Times, December 1956.
E.92	Draft speech to Congregation, Oxford University, on expansion of technological education, n.d. c.1956
	Typescript and ms.
E.93	General correspondence on education, 1956.
E.94	Correspondence with headmasters rescience education. 1956
E.95	Correspondence with Lord Simon of Wythenshawe, on education, 1956.
	Includes typescript draft of Simon's speech in House of Lords debate on education, November 1956.
E.96	Shorter correspondence and papers, 1956.

E.97-E.98	Correspondence, etc. with J.R. Colville, 1956-57.
	Mainly re projects to promote technological education with funds from the Churchill 80th Birthday Trust, and with support from industry.
	Various projects were proposed; among those which came to fruition are the Churchill Fellowships and the founding of Churchill College, Cambridge.
	The material includes various draft memoranda and papers, copies of letters to others, etc.
	2 folders as follows:
E.97	1956
E.98	1957 (January-April)
E.99	Correspondence January-June 1957.
	Cherwell died on 2 July, and was engaged in correspondence, plans for conferences and articles on the subject of technological education to the end.
	See also E.100 below.
E.100	3 pp. draft on technological education.
	With a ms. note by J. Harvey 'Unfinished first draft of Professor's last dictation'.
E.101	Speech on industrial support for science teaching in schools, n.d.
E.102	Draft for speech on higher education in House of Lords debate, n.d., probably May 1957.
E.103	Extracts from Hansard covering debates on education

in House of Commons, 1953-56.

E.104-E.137 INVITATIONS AND CORRESPONDENCE

See the note on the content of the material in the Introduction to Section E.

E.104 1919-20.

Correspondence with editors and publishers of Discovery, re Cherwell's article on Einstein's Theory of Relativity, commissioned for the first issue of the magazine but later considered too difficult for the readership.

E.105 1930-31.

E.106 1932.

Includes correspondence re Cherwell's address, on 'The Place of Mathematics in Science and Philosophy', delivered to the British Institute of Philosophy, and published in Philosophy, 8, 1933; also included here is correspondence 1947 requesting permission to reprint the article in an anthology.

E.107 1933.

Correspondence, etc. re Cherwell's lecture on 'Some Recent Discoveries in Science', arranged by English-Speaking Union in aid of Walter Hines Page Endowment Fund.

E.108 1933.

Invitation to write a note for <u>Nature</u> on work at Clarendon Laboratory on liquefaction of helium; letters from Andrade and Kapitza re article.

E.109 1933.

E.110 1935.

E.111 1935-37.

re Cherwell's lecture on 'Research at the lowest temperatures and its importance to industry', given as a public lecture to Institution of Chemical Engineers, October 1936.

E.112 1935-38.

Requests for articles, lectures, books on rearmament and especially air defence.

E.113 1936.

re Guthrie Lecture; contribution to Exhibition of Very Low Temperatures at Science Museum, etc.

E.114 1936.

re Broadcast on 'Fahrenheit' in 'The World Goes By' series, etc.

E.115 1936-37.

re proposed lecture at Leeds.

E.116 1937.

E.117 1938.

E.118 1941-42.

Includes requests for broadcast on Rutherford, obituary notices of I.O. Griffith, W. Nernst.

E.119 1945.

E.120 1946.

E.121 1946-47.

re lectures given by Cherwell at Imperial Defence College on 'Civilisation and Science'.

E.122 1947.

Includes correspondence re Cherwell's address to the Iron and Steel Institute.

E.123 1948.

Includes correspondence re proposed B.B.C. Third Programme discussion broadcast on methods of selection for the Civil Service (the project did not develop).

E.124 1949, January-March.

Includes correspondence re Cherwell's contribution to series of programmes on atomic energy for 'L'Université des Ondes' broadcast on the Parisian network; and re his article 'Financing the Budgets of the State' for the journal of the National Provincial Bank (see also A.125).

E.125 1949, May-December.

E.126 1950.

E.127 1951.

E.128 1952.

E.129 Correspondence and papers re opening of new Physics and Engineering Laboratories, King's College, London, 27 June 1952.

Includes brochure, background material re staff and research in progress, offprints by members of department, etc.

E.130 1953.

E.131 1954, February-June.

Includes invitations to give Clerk Maxwell Memorial Lecture, J.D. Dunn Memorial Lecture (at Durham) (both declined), arrangements for Cherwell to visit Frankfurt, etc.

E.132 1954, July-December.

E.133 1955.

Invitations from schools and educational institutions, to speak on the teaching of science.

E.134 1955.

Invitations from newspapers, political institutions. Includes request from H.A. Kissinger for article in Harvard University review Confluence.

E.135 1956.

Invitations and requests from schools or re science education.

E.136 1956.

Miscellaneous invitations, including requests for memoirs or autobiography.

E.137 1957, January-June.