

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on further papers of
FREDERICK ALEXANDER LINDEMANN
VISCOUNT CHERWELL
(1886 - 1957)

deposited in
Nuffield College Library, Oxford

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Supplementary catalogue of the papers of

FREDERICK ALEXANDER LINDEMANN

VISCOUNT CHERWELL OF OXFORD

(1886 - 1957)

Material additional to the main catalogue CSAC 80/4/81

Compiled by

Jeannine Alton and Peter Harper

Deposited in the Library of Nuffield College, Oxford

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DESCRIPTION OF THE MATERIAL

The papers came to light in July 1982, some time after the completion of the cataloguing of the main Cherwell manuscript collection. It is possible that since they are wholly related to Cherwell's early career as a physicist they had been overlooked by those whose interest lay in his later political activities.

For precisely the same reason, however, the material is a useful addition, dating as it does mainly from the years which Cherwell spent in Nernst's laboratory (c.1910 - 14). It is almost all autograph manuscript, in German, and deals with research on specific heat, early quantum theory and the movement of electrons in atoms. Items 16 and 20 refer to later work on astronomical problems; items 19 and 21 are Farnborough reports on aeronautical topics. Very few of the manuscripts are dated, and the chronological order of presentation is no more than approximate.

Of some interest is item 8, notes taken of contributions to discussions at a conference, probably the Second Solvay Conference of 1913, when X-ray spectroscopy and its impact on atomic theory were a principal topic.

As with the compilation of the main Cherwell catalogue, use has been made of the biographical memoir by G.P. Thomson (Biographical Memoirs of Fellows of the Royal Society, 4, 1958) and of the official biography by Birkenhead, The Prof. in two worlds (Collins, 1961). When a link with material in the main catalogue could be reasonably established this is indicated in the entries.

ACKNOWLEDGEMENTS

We are very grateful to Dr. G. Sweet for help in deciphering German script, and to Dr. J. H. Hendry for suggesting dates for some of the documents.

1 - 4 PATENTS AND INVENTIONS

1. Patent for cooling of Röntgen tubes, 1912.

Ms. draft and forwarding letter (dated 23 December 1912); two typescript versions, and drawing. In German.

This is a fuller version of the patent on the construction of Röntgen tubes included in C.1 of the main catalogue.
2. Incomplete ms. draft, 2 pp., on adjustment of temper of Röntgen tubes, n.d., probably intended for patent. In German.
3. 4 pp. typescript draft patent for improvement of light bulbs, n.d. In German.
4. Incomplete ms. draft, 3 pp., for patent on a new soldering-iron, dated 29 January 1913. In German.

5 - 21 RESEARCH AND PUBLICATIONS

5. 'Über das Dulong-Petitsche Gesetz'

This was Cherwell's doctoral thesis, on specific heats, published in 1911.

Miscellaneous pages, some with corrections and annotations by Cherwell and in another hand. In German.

(The front page bears the designation 'Friedrich Lindemann aus Baden-Baden' and the address 'Hotel Reichstag'.)
6. Ms. draft paginated 8-16. In German.

Similar corrected and annotated material, kept with 5 above, but later in date (includes reference to papers at Second Solvay Conference 1913).
7. 4 pp. ms. draft, on movement of electrons. Cherwell published articles on the subject in Verhandl. dtsh. Phys. Ges. 13, 1911. In German.

8. Notes taken at conference, perhaps Solvay Conference 1913. Includes various lists of participants and brief notes of contributions to discussions by Lorentz, Rutherford, W.H. Bragg, de Broglie, Sommerfeld, Einstein, Madame Curie, Brillouin, Langevin, Nernst, etc.
9. 2 pp. ms. draft for lecture on the kinetic theory of gases, n.d. Possibly for lectures given at University of Chicago, 1913 (Birkenhead, p.53), or earlier.
10. 4 pp. ms. draft of paper on Dulong-Petit's law. n.d., but refers to Nernst-Lindemann paper, 1912.
11. Letter (addressed to Nernst) requesting advice on construction of a balance to function in a vacuum. From B. Blount, December 1913.
12. 2 pp. ms. draft on photography of X-ray spectra. The heading also bears the name of M. de Broglie, with whom Cherwell published a collaborative paper on the subject in 1914 (Verhandl. dtsh. Phys. Ges. 16). In German.
13. 7 pp. ms. draft (incomplete) for paper 'Über die Grundlagen der Atommodelle' published in 1914 (Verhandl. dtsh. Phys. Ges. 16). In German.
14. Miscellaneous drafts on atomic structure. None dated, but all arising from publications by Bohr and Moseley, and referring to work of de Broglie 1913, 1914. (Moseley was killed at Gallipoli, 1915.)

See 15 below.
15. Ms. note on a paper by Moseley in Phil. Mag., December 1914. Perhaps early draft for Cherwell's Phil. Mag. paper, 1915.
16. Ms. draft letter to A.S. Eddington, on his book 'Stellar Movements and the Structure of the Universe' (1914) and submitting Cherwell's paper 'Note on a number of dark stars' for publication (Mon. Not. R. Astr. Soc., 75).
17. 'Origin of magnetic storms'

Notes and drafts, probably for paper published in Phil. Mag., 38, 1919, but some notes may be earlier.
18. Letter from Cherwell to journal secretary, on a rejected collaborative paper. n.d.

19. 'Turn indicators for aeroplanes', Advisory Comm. for Aeronautics Reports and Memoranda no.525 (H.M.S.O.) 1917. Reprint only.
- See C.11-C.31 of the main catalogue for other aeronautical reports prepared by Cherwell during his service at the Royal Aircraft Factory, Farnborough.
20. 'Note on the pulsation theory of the cepheid variables'
- 3 pp. typescript and ms. draft for paper published with slight change of title in Mon. Not. R. Astr. Soc., 78, 1918.
21. 'Note on landing in fog', Aeronautical Research Comm. Reports and Memoranda no.726, 1921. Reprint only.
- Not listed in the Bibliography of the Royal Society Memoir.

22 - 24

SHORTER NOTES

22. Two booklets of notes, exercises, diagrams, etc. on elementary geometry and algebra. In German.
23. Notes and calculations, some on the movement of atoms, on writing-paper of Reichstag and Adlon Hotels. In German.
24. Folder of miscellaneous undated notes and calculations, some on specific heat.