

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on the papers of
D R. H E I N Z L O N D O N, F R S
(1907-70)
deposited in the Wills Memorial Library,
University of Bristol

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THE ROYAL SOCIETY

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

COMMITTEE ON SCIENTIFIC AND TECHNOLOGICAL RECORDS

CONTEMPORARY SCIENTIFIC ARCHIVES CENTRE

Papers of

Dr. Heinz London, F.R.S.

(1907 - 1970)

Listed by: Jeannine Alton
Harriot Weiskittel

Description of the collection

The papers cover the years 1886 - 1972.

Dr. London's scientific work and conference papers comprise the bulk of the collection; they include notebooks dealing with his work on the 'Tube Alloy' project during the Second World War (Items 23 - 26). Those laboratory notebooks and working papers which are not identifiable by date and/or title have been listed as 'Miscellaneous' (Items 49 - 55).

Many of Dr. London's notes made while he was working at Bristol are written on the back of students' examination scripts.

Many of the earlier working papers, and much of the correspondence, are in German; an indication of this is given in the handlist.

Because of the close relationship which existed between Dr. London and his elder brother, all material and offprints relating to Fritz London and his work have been retained in the collection.

The papers were received from Mrs. Lucie London, whose short explanatory notes are attached to many of the items. Abstracts and proceedings of conferences on low-temperature physics were accepted by the Radcliffe Science Library, Oxford.

Summary of the career of Dr. Heinz London

1907	Born in Bonn, Germany
1926 - 27	University of Bonn
1927 - 29	Technische Hochschule, Berlin
1929 - 31	University of Munich
1931 - 34	University of Breslau, D.Phil.
1934 - 36	Clarendon Laboratory, Oxford
1936 - 41	Research grant, H.H. Wills Physical Laboratory, Bristol
1939	Marriage to Gertrude Rosenthal (marriage dissolved)
1940	Internment in Isle of Man
1942	Naturalisation
1942 - 46	Work on 'Tube Alloys'
	1942 - 43 Imperial Chemical Industries, Birmingham
	1943 Birmingham University; Imperial College, London
	1943 - 44 Ministry of Supply, Flintshire
	1944 - 46 Nuffield Laboratory, Birmingham University
1946	Marriage to Lucie Meissner
1946 - 70	Atomic Energy Research Establishment, Harwell: Principal Scientific Officer, 1946; Senior Principal Scientific Officer, 1950; Deputy Chief Scientist, 1958
1959	Awarded first Simon Memorial Prize of the Physical Society's Low Temperature Group
1961	Election to Royal Society

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HandlistI. Biographical

1. Memoir, by David Shoenberg. (Biographical Memoirs of Fellows of the Royal Society, Vol. 17, November 1971). 1971
2. Correspondence and notes collected by Mrs. Lucie London for D. Schoenberg's use in writing memoir. 1970
3. Personal recollections supplied by Mrs. London for memoir; 'business' copy of Dr. London's diploma from the University of Breslau, granting him the title of 'Doktor der Philosophie' 1970
1934
4. Copies of entries on Heinz London and Fritz London in Dictionary of Scientific Biography and related correspondence. 1971
5. Early personal correspondence (German). 1936 - 37
6. Correspondence with first wife, Gertrude Rosenthal, during his internment in Isle of Man, July - September. 1940
7. Correspondence, notes and articles relating to Fritz London 1958 - 71

II. Laboratory notebooks

8. Ms. notebook (German). 1935 - 38
9. Ms. notebook 'University of Bristol, Physics Note Book' (German). 1937
10. Ms. notebook (German). 1937
11. Ms. notebook 'Calorimeter' (German). 1936 - 38
12. Ms. notebook (German). 1937 - 38
13. Ms. notebook 'Colloquia'. 1937 - 39

- | | | |
|-----|--|-----------|
| 14. | Ms. notebook, with name and address, includes notes on 'the heat conductivity of glass' and various experiments. | 1938 |
| 15. | Ms. notebook, with name and address, notes in German and English. | 1938 |
| 16. | Ms. notebook with no cover, notes on others' work. | 1937 - 39 |
| 17. | Ms. notebook, includes typescript of 'Isotope Separation by Ionic Migration'. | 1937 - 39 |
| 18. | Ms. notebook, with name and address, notes on experiments. | 1938 - 39 |
| 19. | Ms. notebook, in several hands, notes on experiments. | 1939 |
| 20. | Ms. notebook, 'University of Bristol, Physics Note Book'. | 1941 |
| 21. | Ms. notebook, includes notes by W. Bates. | 1941 |
| 22. | Ms. notebook, mostly notes on experiments. | 1941 - 42 |
| 23. | Ms. notebook, labelled 'Ministry of Labour and National Service, Internal Labour Branch, Central Register of Aliens, Red Lion Square, W.C.1, Classification 7091.' Work on tube alloys. | 1942 |
| 24. | Ms. notebook, work on tube alloys. | 1942 |
| 25. | Ms. notebook, work on tube alloys. | 1942 - 43 |
| 26. | Ms. notebook, labelled 'Project G.C.27 Tube Alloys. 8/9/958,7, 0/36' occasional notes dated 1959. | 1942 |
| 27. | Ms. notebook, notes on others' work. | 1943 |
| 28. | Ms. notebook with loose pages inserted: correspondence and notes from B. Davison, Birmingham University; unidentified MSS. | 1943 |
| 29. | Ms. notebook, 'Smoke Experiments'. | 1944 |
| 30. | Ms. notebook, 'Smoke Experiments' May-September. | 1944 |
| 31. | Ms. notebook, 'Birmingham, Thermal Diff. Diffusion and back (?) Chromatography (Theoretical)'. Includes Ms. notes for 'Enrichment of the less absorbable component of chromatography,' and 'Relation between Viscosity and Diffusion Constants'. | 1944 |
| 32. | Ms. notebook, includes work on 'Calculation of Volumes and Working Conditions' and 'Calibration of Unipivot L 144083 at Oxford with Finsley Rotentiometer'. | 1944 - 46 |
| 33. | Ms. notebook, in another hand. | 1944 - 45 |
| 34. | Ms. notebook, in another hand. | 1945 - 46 |
| 35. | Ms. notebook, labelled '4 lectures on probability by Peierls'. | 1946 |
| 36. | Ms. notebook, data on experiments; includes draft of 'production n.d. of screens by radiation without use of a lens'. | |
| 37. | Ms. notebook, labelled 'Data'. | n.d. |
| 38. | Ms. notebook, notes on others' work, 'conductivity'. | n.d. |
| 39. | Ms. notebook, includes drafts of letters to Fritz London (German). | n.d. |

40. Ms. notebook, includes notes on others' work (probably taken at a conference) and Ms. draft of unidentified article beginning 'the difference in the vapour pressure of isotopes is due to differences in zero point energy'. n.d.
41. Ms. notebook, includes notes on 'Conductivity of Solids', Ms. draft of 'Separation by Ionic Transfer in the Solid State', Ms. draft of 'Theory of the Chromatographic Separation of Similar Substances'. n.d.
42. Ms. notebook (German). n.d.

III. Working papers

43. Miscellaneous Ms. notes, written on back of students' examination scripts; graphs. 1936 - 38
44. Ms. file notebook of work at the University of Bristol, indexes labelled 'technical notes, calibrations, calorimeter, high frequency, Knudsen'. 1938 - 39
45. Ms. file notebook includes notes on 'magnetic calibration and fluxmeter calibration', miscellaneous notes in another hand, reports of investigations of supplies of lead and tin rods. 1935 - 39
46. Miscellaneous notes, working papers, diagrams and correspondence relating to work on carbon molecule (note by Lucie London). 1945
47. Ms. draft describing experiment for rotation of container of liquid helium to determine flow of superfluid phase of liquid helium. 1950
48. Patent for the 'Apparatus for the Treatment of Liquids', patent application for 'Improvement in or relating to cigarettes'. 1950
49. Miscellaneous unidentified diagrams and data readings (some are dated 1939). n.d.
- 50.- Miscellaneous Ms. working papers (original arrangement as
55. found in collection retained). n.d.
- 56.- Work on osmotic pressure gauge 1969 - 70
62. 56. 'He3 He4 Data'.
57. Work of 1969 - 70.
58. Drawings and diagrams.
59. 4 photographs of He3 apparatus.
60. 'Measurement of the Osmotic Pressure of Helium-3 in superfluid Helium-4' Ms. drafts, typescripts and preprints: intended for presentation at the 12th Low Temperature Conference, Japan, 1970.
61. Slides and prints to accompany presentation.
62. Related correspondence, February - August. 1970

IV. Lecture

63. 'Low Temperature' Ms. notes and diagrams, March. 1970

V. Publications

64. 'The high frequency resistance of super-conducting tin', Proceedings of the Royal Society, London A, 176, 522-533. Ms. draft and corrected proof. 1940
65. 'The high frequency resistance of super-conducting tin', 2 typescripts (one annotated by A.M. Tyndall) and related correspondence. 1940
66. Ms. draft of unidentified paper on miniature helium liquifier. n.d.
67. 'An apparatus which enables fighter aeroplanes to spot and aim at enemy aircraft at night and in clouds', Ms. draft, 2 typescripts, and related correspondence. 1940
68. 'Superfluid helium' (First Simon Memorial Lecture to the Physical Society, Low Temperature Group, 13 October 1959). Physical Society Yearbook, 34-48. Annotated offprint. 1960
69. Volume on Fritz London for 'Selected Readings in Physics Series', Pergamon Press. 3-page Ms. draft and related correspondence. 1963 - 70
70. 'Techniques for evaluation of the performance of the He3 dilution refrigerator' (with D. Phillips and G.P. Thomas) Proceedings Second International Cryogenic Engineering Conference, Brighton, May 1968, 55-58. Typescript with Ms. annotations in another hand. 1968
71. Review for Nature of M. von Laue's Theory of Superconductivity. Ms. draft of first 290 words (never submitted) and related correspondence. Typescript of review as written by E.N. Adams. 1954

VI. Conference papers

72. Seventh International Conference on Refrigeration, The Hague. Related correspondence. 1936
73. Conference on Fundamental Particles and Low Temperature, Cambridge, July 1946: related correspondence. Informal conference on liquid helium, Cambridge, June 1947: related correspondence. 1946
1947
74. Informal conference on low temperature with members of Soviet Academy of Sciences, Cambridge: related correspondence and programme. International Low Temperature Conference, Madison Wisconsin, August 1957: related correspondence. 1957
75. Conference on Cryogenic Engineering, Boulder, Colorado, August 1960: related correspondence. Symposium on Liquid and Solid Helium-3, Ohio State University, August 1960: related correspondence and programme. VII International Conference on Low Temperature Physics, Toronto, August 1960: related correspondence and programme. 1960
76. Conference on Fundamental Research in Superconductivity, IBM Research Center, Yorktown, New York, June 1960: related correspondence, programme and itinerary. 1961

77. Commission I of the International Institute of Refrigeration, London, September 1961: programme, abstracts, Ms. notes. 1961
78. International Conference on High Magnetic Fields, M.I.T., November 1961: programme. Progress in Cryogenic Research, Institute of Technische Hochschule, Karlsruhe, Germany, March 1962: related correspondence. 1961
1962
79. 12th annual meeting of Société de Chimie Physique, Paris, June 1962: related correspondence, programme, Ms. notes taken at conference. 1962
80. VIII International Conference on Low Temperature Physics, Queen Mary College, London, September 1962: related correspondence, list of delegates, copy of paper submitted by R.O. Pohl, 1 page of Ms. notes. 1962
81. Institute of Physics and Physical Society Conference on High Magnetic Fields, Their Production, and Their Application, Oxford, July 1963: list of participants. 1963
82. International Conference on Science of Superconductivity, General Electric Research Laboratory, New York, August 1963: related correspondence, programme, abstract of London paper on 'superconductivity of thin films of niobium'. 1963
83. Conference on Fundamental Aspects of Superconductivity, Varenna, June-July 1964: related correspondence, list of participants and contributed papers, programme, Ms. notes. 1964
84. IX International Conference on Low Temperature Physics, Columbus, Ohio, August 1964: related correspondence. Symposium on Quantum Fluids, Brighton, August 1965: programme, list of participants, Ms. notes. Symposium on Superfluid Helium, St. Andrew's, August 1965: related correspondence. 1964
1965
1965
85. X International Conference on Low Temperature Physics, Moscow, August-September 1966: related correspondence, programme. Conference on Solid State Physics, Institute of Physics and Physical Society, Manchester, January 1967: programme, list of participants. 1966
86. Conference on Transport Properties of Superconductors, Institute of Physics and Physical Society, Canterbury, March 1967: list of participants and papers, abstracts, Ms. notes. 1967
87. Gordon Conference on Dynamics of Quantum Liquids and Solids, Mt. Ranier, Washington, July 1967: programme. NATO summer school on superconductivity, Montreal, June 1968: related correspondence, list of participants and papers. 1967
1968
88. XI International Conference on Low Temperature Physics, St. Andrew's, August 1968: programme, abstract of London paper, 'Force free fields in reversible type II superconductors', Ms. notes. Conference on AC properties of superconductors, Institute of Physics and Physical Society, Warwick, August 1968: programme, list of participants. 1968

89. Conference on Science of Superconductivity, Stanford, August 1969: related correspondence, itinerary. 1969
90. Book issued to participants in Stanford conference containing programme, abstracts of invited papers. Annotated by London. 1969
91. XII International Conference on Low Temperature Physics, Kyoto, Japan, September 1970: programme, related correspondence. (see also Items 60 - 62). Meeting of Commission I of the International Institute of Refrigeration, Tokyo, September 1970: programme. 1970

VII. Correspondence

92. With Fritz London (includes drafts of H. London's letters) (some in German). 1932 - 43
93. With Fritz London (includes several undated letters and letters from Mrs. F. London). 1944 - 45
94. With C.J. Gorter (German). 1935 - 50
95. With Otto Hamburger (German). 1935 - 38
96. With David Schoenberg 1935 - 65
97. With Sir Francis Simon (German). 1937 - 49
98. With Martin Wood and Oxford Instrument Company. 1967 - 69
- 99.- Miscellaneous scientific (see index to principal correspondents). 1935 - 64
101. 101. dents).
102. With Notgemeinschaft Deutscher Wissenschaftler im Ausland 1936 - 38
103. Miscellaneous correspondence with Royal Society (including letter of congratulation on election to the Royal Society from Myra Kaye). 1935 - 61
104. Correspondence re fellowships, employment 1946 - 69
105. Miscellaneous testimonials; correspondence re serving as an external examiner. 1946 - 62
106. Miscellaneous correspondence re publications, reviews, letters to the editor etc. 1956 - 69

VIII. Offprints

107. Offprints of Heinz London 1934 - 66
108. Offprints of Fritz London (includes 2 offprints by Franz London, father). 1927 - 53
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