

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Report on the papers of
DR ERNEST A. WATSON OBE
(1887-1975)

deposited in the Library of the
University of Birmingham

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THE ROYAL SOCIETY

THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS

Joint Committee on Scientific and Technological Records

CONTEMPORARY SCIENTIFIC ARCHIVES CENTRE

Papers of

DR. ERNEST A. WATSON, O.B.E.

(1887 - 1975)

Listed by: Jeannine Alton
Harriot Weiskittel

Deposited in the Library of the University of Birmingham

1976

Description of the collection

The papers were received from Dr. Watson in October 1974, and represent his own selection of material which he considered likely to be of historical interest. It was suggested to him that he might wish to supplement or amplify the information, perhaps by additional notes to his 'Memoirs'; several of these addenda were received in the period November 1974 - April 1975, and appear in the handlist accompanying the item to which they relate (e.g. Items 2-3, 6, 14, 16, 17, 19). Dr. Watson died in July 1975.

The bulk of Dr. Watson's professional work is in the Reports written for Joseph Lucas Industries, and now in the records of the firm (see Items 12-14).

The 'Memoirs' (Item 2) written in 1971, give an interesting and lucid account of Dr. Watson's scientific and engineering career. Although, as he states, the work is not an autobiography, it relates or refers to many episodes of interest in the early history of engineering enterprises in Britain and America. Several of these can be further illustrated by items in the collection; among them, one may note:

the importance of the Birmingham and Midlands Institute as a "common focus of scientific work by men of very different types and positions" (Memoirs, p.4, see Items 5 and 6);

the contribution of amateur scientists such as C.J. Watson, Dr. Watson's father (Memoirs, pp.4-5, see especially Item 6);

Dr. J.D. Morgan (Memoirs, pp.36 and 52, see Item 7);

work on the Jet engine, and the formation of the Gas Turbine Company (Memoirs, p.48 et seq., see Item 14).

The help of Lucas Aerospace Division, Joseph Lucas Industries in assembling and identifying the material is gratefully acknowledged.

Summary of career

b.1887

educated King Edward's School, Birmingham

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|------|---|
| 1907 | Honours degree in mechanical and electrical engineering, Birmingham |
| 1907 | 1851 Research Scholarship, Liverpool University |
| 1909 | M.Sc. Liverpool |
| 1909 | Visit to Canada and U.S.A. |
| 1909 | Joined firm of Morris & Lister Co., Coventry (the firm was acquired by Joseph Lucas Ltd. in 1930) |
| 1918 | O.B.E. for work on magneto design during 1914-18 War |

- 1924 Second visit to Canada and U.S.A.
- 1930 Chief Engineer, Joseph Lucas Ltd. (later, Director)
- 1940 Work on Whittle Jet engine
- 1944 Hon. D.Sc. Birmingham University

The Handlist

1. Obituaries from The Times, Lucas Bros. News Release, Birmingham newspaper.
2. EAW's Memoirs 83 typescript pages (see Note in Description of the collection on p. 1). 1971
3. Additional information to 'American Trip 1909', Appendix I of Memoirs. 1975
4. Photograph of dinner for R.J. Ifield with accompanying identification sheet. 1947
5. Blue notebook entitled 'Electric Waves &c' containing scientific articles by EAW's father C.J. Watson published in 'The Model Engineer', 'The Electrician' and 'English Mechanic'. A map drawn by C.J.W. of the 'Birmingham and Midland Scientific Society Whitmonday Excursion June 10, 1878' is inserted inside the front cover. 1904 - 09
1878
6. Purple notebook entitled 'Ionisation Experiments 1910' containing articles published in 'The Model Engineer and Electrician', 'Scientific American' and 'Engineering Mechanics'. The notebook includes a note by EAW (March 1975) describing the significance of these experiments performed by his father which he considered to be the basis of the Rank 'Xerox' process. 1910 - 31
7. John David Morgan: 2pp. typescript of obituary written by EAW for publication in the Journal of the Institution of Electrical Engineers (c.1961). Set of Morgan's off-prints used by EAW in preparing the obituary. 1961
8. Birmingham and Midlands Institute Scientific Society: lists of members, announcements, agendas, and minutes of meetings collected by A.A. Tomkins and given to EAW. 1958 - 66
9. - 11. 3 ring binder notebooks of papers and reports by EAW with ms. indexes of contents:
 9. 'Personal papers published up to 1939'
 10. 'Papers published after 1939'

11. 'Unpublished papers to (mostly) members of Lucas organisation' 9 papers: 1948-60. The last item in the index is a lecture on the history of the Lucas organisation which was returned to EAW at his request on 4 November 1974 and not recovered after his death.
12. Bibliography (20 pp.) of Lucas reports written by EAW during the period December 1943 to December 1959 with a covering letter from A.N. Partridge to EAW (25 October 1974).
13. EAW's own notes and lists re his Lucas reports (5 ms. pp.)
14. Photocopy of Ms. notes by EAW entitled 'Lucas Gas Turbine Work. Extracted from old files in possession of EAW' (14 pp.): possibly made by Dr. Watson for author of company's history. Included is EAW's letter to the Centre (27 October 1974) giving more information re research, collaborators and interests. (Dr. Watson was hoping to write more fully on this work, but died before doing so.)
15. Photocopy of 1909 article by EAW and E.W. Marchant describing observations made during tour of North America to inspect high tension transmissions systems (see Memoirs pp.63-71)
16. 'Lighting in Mines': 1938 article, with 3 ms. pp. of notes added by Dr. Watson in 1974.
17. 'Ignition research work carried out by the Lucas Organisation with special reference to high altitude problems': Lucas Report 5988 (1954) with 2 typescript pp. of notes added in November 1974.
18. 'The use of fuel cells in automobiles: examination of the problems involved in the motor and transmission': 1964 paper presented to Automobile Division of the I.M.E. with extensive annotations, additions and revisions made in 1964-67.
19. Robert Bosch by Theodor Heuss: copy of book owned by EAW including 4 typescript pp. of Dr. Watson's 'Comments on Heuss book and corrections where known to be necessary'. 2 letters re provenance of book.

Items 20-22 are three folders relative to work of the Lucas organisation which EAW considered to be of special historical interest. Each folder contains reports, blueprints, charts and drawings prepared by EAW or other members of the Lucas staff. The descriptions given below are those which EAW appended to the folders.

20. 'Works internal reports on development of aircraft magnetos for high altitude and high duty work. Note: work faded out as gas turbines came in.'

21. 'Wind power tests. Abandoned due to: - 1) spread of national grid, 2) problem of storage'

1947 - 54

22. 'L.47 Lucas work on combustion in connection with supercharger project. This report shows the evolution of the combustion chamber from the first reverse flow type with stubpipes put forward by Whittle to the straight through B26 type forming the basis of the Derwent and Nene Engines'.

1947