

THE JOURNAL OF HYGIENE

EDITED BY

GEORGE H. F. NUTTALL, M.D., PH.D., Sc.D., F.R.S.

QUICK PROFESSOR OF BIOLOGY IN THE UNIVERSITY OF CAMBRIDGE

IN CONJUNCTION WITH

JOHN S. HALDANE, M.D., LL.D., F.R.S.,
Late Reader in Physiology in the University of Oxford.

CHARLES J. MARTIN, M.B., D.Sc., F.R.S.,
Director of the Lister Institute, London.

J. C. G. LEDINGHAM, M.B., D.Sc.,
Bacteriologist-in-Chief, Lister Institute, London.

G. S. GRAHAM-SMITH, M.D.,
University Lecturer in Hygiene, Cambridge.

M. GREENWOOD, JUNR., M.R.C.S.,
Statistician, Lister Institute, London.

PUBLISHED QUARTERLY



CAMBRIDGE UNIVERSITY PRESS

C. F. CLAY, MANAGER

LONDON: FETTER LANE, E.C. 4

ALSO

H. K. LEWIS AND CO. LTD., 136, GOWER STREET, LONDON, W.C. 1

WILLIAM WESLEY AND SON, 28, ESSEX STREET, STRAND, LONDON, W.C. 2

CHICAGO: THE UNIVERSITY OF CHICAGO PRESS

BOMBAY, CALCUTTA AND MADRAS: MACMILLAN & CO., LTD.

TORONTO: J. M. DENT AND SONS, LTD.

TOKYO: THE MARUZEN-KABUSHIKI-KAISHA

Price Seventeen Shillings net

THE CAMBRIDGE PUBLIC HEALTH SERIES

Under the Editorship of

G. S. GRAHAM-SMITH, M.D., AND J. E. PURVIS, M.A.

- Flies in Relation to Disease. Non-Bloodsucking Flies.** By G. S. GRAHAM-SMITH, M.D., Lecturer in Hygiene in the University of Cambridge. Demy 8vo. Second edition, revised and enlarged. With 27 plates, 32 text-figures and 20 charts. 12s. 6d. net.
- Flies in Relation to Disease. Bloodsucking Flies.** By EDWARD HINDLE, B.A., Ph.D., Assistant to the Professor of Biology, Cambridge. Demy 8vo. With 88 text-figures. 12s. 6d. net.
- Infant Mortality.** By HUGH T. ASHBY, B.A., M.D., B.Ch. (Camb), M.R.C.P. (London). Demy 8vo. With 9 illustrations. 12s. net.
- Occupations from the Social, Hygienic, and Medical Points of View.** By Sir THOMAS OLIVER, M.A., M.D., LL.D., D.Sc., F.R.C.P., Professor of the Principles and Practice of Medicine, University of Durham. Demy 8vo. 7s. net.
- The Causes of Tuberculosis.** Together with some Account of the Prevalence and Distribution of the Disease. By L. COBBETT, M.D., F.R.C.S., University Lecturer in Pathology, Cambridge. Demy 8vo. With 23 plates and 8 diagrams. 21s. net.
- The Chemical Examination of Water, Sewage, Foods and other Substances.** By J. E. PURVIS, M.A., University Lecturer in Chemistry and Physics as applied to Hygiene and Public Health, Cambridge, and T. R. HODGSON, M.A., Public Analyst for the County Boroughs of Blackpool and Wallasey. Demy 8vo. 10s. 6d. net.
- The Bacteriological Examination of Food and Water.** By WILLIAM G. SAVAGE, B.Sc., M.D., D.P.H., County Medical Officer of Health, Somerset. Second edition. Demy 8vo. With 16 illustrations. 10s. net.
- Sewage Purification and Disposal.** By G. BERTRAM KERSHAW, M.Inst.C.E., Consulting Engineer, Engineer to the Royal Commission on Sewage Disposal. Demy 8vo. With 4 tables and 56 text-figures and plans. 12s. 6d. net.
- Post-mortem Methods.** By J. MARTIN BEATTIE, M.A., M.D., Professor of Bacteriology, University of Liverpool. Demy 8vo. With 8 plates and 3 text-figures. 12s. net.
- Isolation Hospitals.** By H. FRANKLIN PARSONS, M.D., D.P.H., formerly First Assistant Medical Officer of the Local Government Board. Demy 8vo. With 55 text-figures. 12s. 6d. net.

A list of volumes in preparation will be sent on application

CAMBRIDGE UNIVERSITY PRESS, FETTER LANE, LONDON, E.C. 4
C. F. CLAY, Manager

THE JOURNAL OF HYGIENE

CAMBRIDGE UNIVERSITY PRESS

C. F. CLAY, MANAGER

LONDON: FETTER LANE, E.C. 4



H. K. LEWIS & CO., LTD., 136, GOWER STREET, LONDON, W.C. 1

WILLIAM WESLEY & SON, 28, ESSEX STREET, LONDON, W.C. 2

CHICAGO: THE UNIVERSITY OF CHICAGO PRESS

BOMBAY, CALCUTTA, MADRAS: MACMILLAN & CO., LTD.

TORONTO: J. M. DENT & SONS, LTD.

TOKYO: THE MARUZEN-KABUSHIKI-KAISHA

CAPE TOWN: T. MASKEW MILLER

All rights reserved

THE JOURNAL OF HYGIENE

EDITED BY

GEORGE H. F. NUTTALL, M.D., PH.D., Sc.D., F.R.S.

QUICK PROFESSOR OF BIOLOGY IN THE UNIVERSITY OF CAMBRIDGE

IN CONJUNCTION WITH

JOHN S. HALDANE, M.D., LL.D., F.R.S.

LATE READER IN PHYSIOLOGY IN THE UNIVERSITY OF OXFORD

CHARLES J. MARTIN, M.B., D.Sc., F.R.S.

DIRECTOR OF THE LISTER INSTITUTE, LONDON

J. C. G. LEDINGHAM, M.B., D.Sc.

BACTERIOLOGIST-IN-CHIEF, LISTER INSTITUTE, LONDON

G. S. GRAHAM-SMITH, M.D.

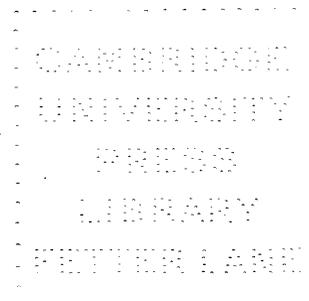
UNIVERSITY LECTURER IN HYGIENE, CAMBRIDGE

M. GREENWOOD, JUNR., M.R.C.S.

STATISTICIAN, LISTER INSTITUTE, LONDON

VOLUME XVII. 1918

CAMBRIDGE
AT THE UNIVERSITY PRESS
1918



CONTENTS

NO. 1 (MARCH)

	PAGE
VEDDER, EDWARD B. Is the Neuritis-preventing Vitamine concerned in Carbohydrate Metabolism?	1
BODKIN, G. E. A Case of Tuberculosis in a Rat	10
HEMPL, HILDA. Some Proteolytic Anaerobes isolated from Septic Wounds. (With 2 Text-figures)	13
SAVAGE, WILLIAM G. The Sources of Infection in Food Poisoning Outbreaks	20
SAVAGE, WILLIAM G. Further Investigations upon the Distribution of Gaertner Group Bacilli in Domestic and other Animals	34
HOMER, ANNIE. Improvements in the Technique of the Concentration of Antitoxic Sera	51
NUTTALL, G. H. F. and GARDINER, J. STANLEY. The Histological Changes in Frozen Fish and the alterations in the Taste and Physiological Properties of their flesh. (With Plate I)	56

NOS. 2 AND 3 (JULY)

EASTWOOD, ARTHUR. Second Report on Bacteriological Aspects of the Meningococcus Carrier problem	63
GRIFFITH, FRED. Second Report on the Identification of the Meningococcus in the Naso-Pharynx, with special reference to Serological Reactions. (One Diagram in Text).	124
SCOTT, W. M. A Further Study of the Serological Reactions of Meningococci from the Spinal Fluid and the Naso-Pharynx, with special reference to their classification and to the occurrence of the latter among Normal Persons	191
PONDER, CONSTANT. A Bacteriological Investigation of Organisms resembling the Meningococcus found by examination of the Naso-Pharynx of Persons who had not been in contact with Patients suffering from Cerebro-spinal Fever	247

	PAGE
CANTI, R. G. An Anomalous Meningococcus. (Plates II—IV)	281
GORDON, M. H. Identification of the Meningococcus. (With 1 Text-figure)	290
TULLOCH, W. J. A Study of the Mechanism of the Agglutination and Absorption of Agglutinin Reaction, together with an examination of the efficacy of these tests for identifying specimens of the Meningococcus isolated from 354 cases of Cerebro-Spinal Fever	316
GLOVER, J. A. The Cerebro-Spinal Fever Epidemic of 1917 at X Depôt. (With 3 Charts)	350

No. 4 (OCTOBER)

GLOVER, J. A. Observations on the Meningococcus Carrier-Rate in relation to density of population in Sleeping Quarters. (With 3 Charts)	367
WALKER, E. W. A. A Contribution to the Study of Meningococci. (With 5 Charts)	380
GIBSON, A. G. On the Cause of Death as determined by micro- scopical examination in three animals killed in the course of "Saturation" tests	405
LEDINGHAM, J. C. G. A "reversion" phenomenon in Bacterial Fermentation	409
TAYLOR, FRANK E. The Absorption or Saturation test of Castellani: its applications in Sero-Diagnosis, and in the Recognition of Bacterial Species. A critical review	415
MAVROGORDATO, A. Experiments on the effects of Dust Inhala- tions	439
SAVAGE, WILLIAM G. and FORBES, DUNCAN. A Food Poisoning Outbreak at Brighton	460
GARDNER, A. D. The Standardization of killed Agglutinable Cultures of <i>B. dysenteriae</i> . (With 2 Charts)	471
INDEX OF AUTHORS	503
INDEX OF SUBJECTS	505