

# 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., F.R.S.

READER IN PHYSIOLOGY IN THE  
UNIVERSITY OF OXFORD

ARTHUR NEWSHOLME, M.D., F.R.C.P.

MEDICAL OFFICER TO THE  
LOCAL GOVERNMENT BOARD

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

DIRECTOR OF THE LISTER INSTITUTE OF PREVENTIVE MEDICINE, LONDON

*PUBLISHED QUARTERLY*



CAMBRIDGE  
AT THE UNIVERSITY PRESS

LONDON: FETTER LANE. C. F. CLAY, MANAGER  
AND H. K. LEWIS, GOWER STREET

EDINBURGH: 100, PRINCES STREET

BERLIN: A. ASHER & CO.

LEIPSIK: BROCKHAUS

NEW YORK: G. P. PUTNAM'S SONS

BOMBAY AND CALCUTTA: MACMILLAN & CO., LTD.

Entered at New York Post Office as Second Class Matter

*Price Seven Shillings net.*

[Issued September 27, 1909]

# THE BACTERIOLOGY OF DIPHTHERIA

INCLUDING SECTIONS ON THE HISTORY, EPIDEMIOLOGY AND PATHOLOGY OF THE DISEASE, THE MORTALITY CAUSED BY IT, THE TOXINS AND ANTITOXINS AND THE SERUM DISEASE. BY F. LOEFFLER, M.D., LL.D., ARTHUR NEWSHOLME, M.D., F.R.C.P., F. B. MALLORY, M.A., M.D., G. S. GRAHAM-SMITH, M.A., M.D., D.P.H., GEORGE DEAN, M.D., WILLIAM H. PARK, M.D. AND CHARLES F. BOLDUAN, M.D.

Edited by

G. H. F. NUTTALL, M.D., PH.D., SC.D., F.R.S.,

Quick Professor of Biology in the University of Cambridge, Fellow of Christ's College,

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

University Lecturer in Hygiene, Cambridge

*Royal 8vo. Buckram. Pp. xx + 718. With 4 portraits and  
16 plates. Price 25s. net.*

"It is by far the most complete record of our present knowledge of this disease hitherto written in the English language...There is nothing to say except praise for the editors, who have produced a magnificent exposition of modern knowledge on this important disease—an exposition which must certainly take its place as the classical authority upon the subject."—*Nature*

"The mere enumeration of the writers is a sufficient guarantee of the excellence of the work, and of the authority which it carries; whilst the articles are written in clear and good English, free, for the most part, from the technical terms which make many treatises on bacteriology difficult and unprofitable to read. The articles are well harmonised, and the teaching in regard to difficult and debatable points is marked by moderation and common sense."—*Athenaeum*

## PARASITOLOGY

A SUPPLEMENT TO THE JOURNAL OF HYGIENE

Edited by GEORGE H. F. NUTTALL, F.R.S., Quick Professor of Biology in the University of Cambridge, and A. E. SHIPLEY, F.R.S., Reader in Zoology, Cambridge.

The *Journal of Hygiene* having become unduly burdened with papers dealing with the anatomy of mosquitoes, fleas, protozoa and other parasites—of great importance in themselves—but having only an indirect relation to hygiene and preventive medicine, it is proposed in future to relegate all such papers to *Parasitology*.

*Parasitology*, though a supplement to the *Journal of Hygiene*, will be issued in the form of a separate yearly volume of four to five hundred pages. The parts will be issued when sufficient material has accumulated. The first four parts are now ready. The subscription price is £1. 1s. per volume (post-free), payable in advance; single numbers 7s. net. Subscribers to the *Journal of Hygiene* may obtain single numbers of *Parasitology* at the reduced price of 5s. net or may become subscribers at the reduced rate of 15s. Subscriptions may be sent to any Bookseller, or to MR C. F. CLAY, MANAGER, Cambridge University Press, Fetter Lane, London, E.C. A Prospectus will be sent on application.

CAMBRIDGE UNIVERSITY PRESS, FETTER LANE, LONDON

# 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.

READER IN PHYSIOLOGY IN THE  
UNIVERSITY OF OXFORD

ARTHUR NEWSHOLME, M.D., F.R.C.P.

MEDICAL OFFICER TO THE  
LOCAL GOVERNMENT BOARD

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

DIRECTOR OF THE LISTER INSTITUTE OF PREVENTIVE MEDICINE, LONDON

## Volume IX. 1909



CAMBRIDGE  
AT THE UNIVERSITY PRESS

LONDON: FETTER LANE, C. F. CLAY, MANAGER

AND H. K. LEWIS, GOWER STREET

EDINBURGH: 100, PRINCES STREET

BERLIN: A. ASHER & CO.

LEIPSIK: BROCKHAUS

NEW YORK: G. P. PUTNAM'S SONS

BOMBAY AND CALCUTTA: MACMILLAN & CO., LTD.

Entered at New York Post Office as Second Class Matter

[All rights reserved]

**Cambridge :**

PRINTED BY JOHN CLAY, M.A.  
AT THE UNIVERSITY PRESS

RECEIVED  
YVES  
SCOTT  
YVES  
MAJ RETT

# CONTENTS.

## No. 1 (April).

	PAGE
BLUE, R. Anti-plague Measures in San Francisco, California, U.S.A. . . . .	1
SYMMERS, W. ST C. AND WILSON, W. J. Some points bearing on the Bacteriology of Cerebro-spinal Meningitis . . . . .	9
DURHAM, H. E. Studies on Cider and Perry. No. I. Sulphite Preservatives . . . . .	17
WILSON, A. On the Relative Efficacy of the Doulton, Berkefeld and Brownlow Filters . . . . .	33
BULLOCH, W, AND CRAW, J. A. On the Transmission of Air and Micro-organisms through Berkefeld Filters. (Plate I. and One Text Figure) . . . . .	35
CRAW, J. A. On the Danysz Effect with reference to the Toxin-antitoxin Reaction. (One Figure) . . . . .	46
GIMLETTE, J. D. Plague in Further India . . . . .	60
TODD, C. An Anti-serum for Scorpion Venom . . . . .	69
MACCONKEY, A. Further Observations on the Differentiation of Lactose-fermenting Bacilli, with special reference to those of Intestinal Origin . . . . .	86
ARKWRIGHT, J. A. Varieties of the Meningococcus with special reference to a Comparison of Strains from Epidemic and Sporadic Sources . . . . .	104
GOADBY, K. A Note on Experimental Lead Poisoning . . . . .	122
PUBLICATIONS RECEIVED . . . . .	134

---

## No. 2 (September).

NASH, J. T. C. House Flies as Carriers of Disease . . . . .	141
HALLIBURTON, W. D. The Bleaching of Flour . . . . .	170
NOON, L. Observations on the Evolution of Immunity in Disease. (Fifteen Figures) . . . . .	181
KAUFMANN, W. P. On the Absence of Respiratory Disorders in those inhaling Starch Dust over Long Periods . . . . .	220

	PAGE
LANE-CLAYPON, JANET E. Observations on the Influence of Heating upon the Nutrient Value of Milk as an Exclusive Diet for Young Animals. (One Figure) . . . . .	233
LANE-CLAYPON, JANET E. Multiplication of Bacteria and the Influence of Temperature and some other Conditions thereon. (One Figure)	239
ARMIT, H. W. The Physiological Effect of Cobalt Carbonyl Vapour .	249
PUBLICATIONS RECEIVED . . . . .	252

---

No. 3 (November).

SCHRYVER, S. B. Some Investigations on the Toxicology of Tin, with Special Reference to the Metallic Contamination of Canned Foods . . . . .	253
BOYCOTT, A. E. AND HALDANE, J. S. The Progress of Ankylostomiasis in Cornwall . . . . .	264
HEWLETT, R. TANNER, VILLAR, SIDNEY AND REVIS, CECIL. On the Nature of the Cellular Elements present in Milk . . . . .	271
PAGE, CECIL H. W. British Industrial Anthrax. Part I. (One Figure) . . . . .	279
WILSON, W. JAMES. On Heterologous Agglutinins more particularly those present in the Blood Serum of Cerebro-Spinal Fever and Typhus Fever Cases . . . . .	316
MASSEY, R. E. A Comparison between the Germicidal Power of a Disinfectant in Solution and in the Emulsified State. (One Text Figure) . . . . .	341
Miscellanea . . . . .	347

---

No. 4 (December).

PAGE, CECIL H. W. British Industrial Anthrax. Part II. . . . .	357
SÜDMERSEN, H. J. AND GLENNY, A. T. Variation in Susceptibility of Guinea-pigs to Diphtheria Toxin. (Seven Charts) . . . . .	399
ARKWRIGHT, J. A. On the Production of Antitoxin by the Injection of Filtrates of Cultures of Non-virulent Diphtheria Bacilli . . . . .	409
JOHNSTONE, JAMES. Routine Methods of Shellfish Examination with Reference to Sewage Pollution . . . . .	412
PUBLICATIONS RECEIVED . . . . .	441
INDEX OF AUTHORS . . . . .	449
INDEX OF SUBJECTS . . . . .	451

## ERRATA

Vol. IX, No. 2

- p. 221, line 11 from below *read* “Beaumé” for “Beor.”  
last line *delete* “-white.”
- p. 222, line 6 *read* “boxing houses” for “boxing horses.”
- p. 223, lines 18 and 21 *read* “kilogrammes” for “grains.”
- p. 230, line 3 from below *read* “[a]<sub>0</sub>=170°” for “[a].”