JOURNAL OF HYGIENE

(Founded in 1901 by G. H. F. Nuttall, F.R.S.)

EDITED BY

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

READER EMERITUS IN PREVENTIVE MEDICINE IN THE UNIVERSITY OF CAMBRIDGE

IN CONJUNCTION WITH

M. GREENWOOD, D.Sc., F.R.C.P., F.R.S.

Professor Emeritus of Epidemiology and Vital Statistics in the University of London

SIR DAVID MUNRO, K.C.B., C.I.E., M.B. Lately Chief Medical Officer, Ministry of Supply



CAMBRIDGE UNIVERSITY PRESS CAMBRIDGE, AND BENTLEY HOUSE, LONDON..

AGENTS FOR U.S.A.
THE UNIVERSITY OF CHICAGO PRESS
CANADA AND INDIA: MACMILLAN

Price Twenty Shillings net

CAMBRIDGE UNIVERSITY PRESS LIBRARY LONDON





STANDARD STAINS AND REAGENTS FOR MICROSCOPY

KNOWN AND USED THROUGHOUT

THE WORLD

Write for Price List and Literature

GEORGE T. GURR

Laboratories:

136 NEW KING'S ROAD LONDON, S.W. 6

No connexion with any other firm of similar name

MICHROME-

STAINS & REAGENTS FOR MICROSCOPY

Azocarmine Azur I & II Brilliant Cresyl Blue Cedarwood Oil Field's Stain Gallamine Blue Giemsa Stain

Janus Blue

Janus Green Janus Red Leishman Stain May-Grunwald Stain Nile Blue Sulphate Paraffin Wax Rosolic Acid Trypan Red Slides, Coverglasses, & Laboratory Sundries

Also Stains in tablet form

Water soluble Indicators

Price List on application

See our exhibit, British Industries Fair, Stand B53, Olympia, London, May 2-13

EDWARD GURR, LTD.

108 WATERFORD ROAD WALHAM GREEN, LONDON, S.W. 6

Tel: Renown 2011 Cables: Gurr, Renown 2011, London FOR UNIFORM HIGH QUALITY, RELIABILITY. AND FOR IMMEDIATE DELIVERY, STIPULATE

MICHROME-

Bound Volumes 40s. net

The Quarterly Journal of Medicine

Edited by

W. RUSSELL BRAIN, CRIGHTON BRAMWELL, W. D. W. BROOKS, D. M. DUNLOP, H. L. MARRIOTT, ROBERT PLATT

CONTENTS

NEW SERIES. Vol. XVIII. No. 69. JANUARY 1949 (Vol. XLII of the continuous series)

Honeycomb Lungs. By Neville Oswald and Thomas Parkinson. With Plates 1 to 4.

Bronchoscopic Studies in Primary Tuberculosis in Childhood. By JAMES H. HUTCHISON. With Plates 5 and 6.

The Effect of Smoking on Water Diuresis in Man. By J. M. WALKER.

On the Nature and Significance of Stippling in Lead Poisoning, with Reference to the Effect of Splenectomy. By A. J. S. McFadzean and L. J. Davis. With Plates 7 and 8.

Reduction in Coponary Flow by Pituitary (Posterior Lobe) Extract in Relation to the Action of Nicotine and to Smoking. By EDITH BÜLBRING, J. H. BURN, and J. M. WALKER.

Single Numbers 10s. 6d. net each Subscription 35s. per annum

Volumes 45s. net Cloth Cases 5s. net

.. OXFORD UNIVERSITY PRESS, LONDON E.C. 4

MOCHOL

THE JOURNAL OF HYGIENE

Printed in Great Britain at the University Press, Cambridge
(Brooke Crutchley, University Printer)
and published by the Cambridge University Press
Cambridge, and Bentley House, London
Agents for U.S.A.: The University of Chicago Press
Canada and India: Macmillan

THE

JOURNAL OF HYGIENE

(FOUNDED IN 1901 BY G. H. F. NUTTALL, F.R.S.)

EDITED BY

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

READER EMERITUS IN PREVENTIVE MEDICINE IN THE UNIVERSITY OF CAMBRIDGE

IN CONJUNCTION WITH

M. GREENWOOD, D.Sc., F.R.C.P., F.R.S.
PROFESSOR EMERITUS OF EPIDEMIOLOGY AND VITAL STATISTICS
IN THE UNIVERSITY OF LONDON

SIR DAVID MUNRO, K.C.B., C.I.E., M.B. LATELY CHIEF MEDICAL OFFICER, MINISTRY OF SUPPLY

VOLUME XLVI. 1948

CAMBRIDGE
AT THE UNIVERSITY PRESS

1948

CONTENTS

No. 1 (March 1948)

	PAGE
GILES, C. and SANGSTER, G. An outbreak of infantile gastro-enteritis in Aberdeen. The association of a special type of <i>Bact. coli</i> with the infection	1
BARNETT, S. A. Rat control in a plague outbreak in Malta. (With Plates 1 and 2 and 2 Figures and 1 Map in the Text)	10
ROGERS, LEONARD. Further work on forecasting smallpox epidemics in India and British tropical countries based on previous climatic data. (With 3 Figures and 2 Maps in the Text)	19
DOWNIE, A. W., GLENNY, A. T., PARISH, H. J., SPOONER, E. T. C., VOLLUM, R. L. and WILSON, G. S. Combined active and passive immunization against diphtheria	34
Chu, C. M. Studies on vaccinia haemagglutinin. I. Some physico-chemical properties. (With 1 Figure in the Text)	42
CHU, C. M. Studies on vaccinia haemagglutinin. II. Some immunological properties. (With 3 Figures in the Text)	49
McNally, P. A. The inhibitory action of the monoethyl esters of S-n-alkylthiomalic acids and the monoethyl esters of alkane sulphonyl succinic acids on the growth of Mycobacterium tuberculosis	60
Pulvertaft, R. J. V and Lumb, G. D. Bacterial lysis and antiseptics. (With Plate 3)	62
SHELUBSKY, M. and OLITZKI, L. The labile antigens of Shigella dysenteriae Shiga	65
· · · · · · · · · · · · · · · · · · ·	70
Wilson, W. James. The production of H ₂ S-negative strains of Salmonella	70
WILLIAMS SMITH, H. Investigations on the typing of staphylococci by means of bacteriophage. I. The origin and nature of lysogenic strains	74
WILLIAMS SMITH, H. Investigations on the typing of staphylococci by means of bacteriophage. II. The significance of lysogenic strains in staphylococcal type designation	82
NEAL, R. A. Entamoeba histolytica in wild rats caught in London. (With Plate 4 and 1 Figure in the Text)	. 90
BISSET, K. A. Seasonal changes in the normal bacterial flora of fresh-water fish. (With 1 Figure in the Text)	94
Mole, R. H. The diagnostic value of the Widal test in the inoculated. (With 1 Figure in the Text)	98
OLITZKI, L., BACHI, R. and KALLNER, G. Infective hepatitis among civilians in Palestine. (With 8 Figures in the Text)	101
No. 2 (July 1948)	
ORDMAN, DAVID and GRASSET, E. Combined <i>pertussis</i> -diphtheria prophylactic antigens. An experimental study to determine the specific immunizing value of these antigens used in combination	117
GUTHRIE, K. J. and Montgomery, George L. Seven-year study of pneumococcus type incidence in the Royal Hospital for Sick Children, Glasgow. (With 1 Figure in the Text)	123
NAYLOR, G. R. E. Some observations on the reaction between horse serum and a pool of rabbit antihorse serum. I. The relative inhibitory effect of excess antigen and excess antiserum. (With 2 Figures in the Text)	129

vi Contents

JORDAN, R. C. and JACOBS, S. E. Studies in the dynamics of disinfection. XII. The effect	PAGE
of variation in pH on the rate of disinfection at 51° C. of standard cultures of Bact. coli. (With 6 figures in the Text)	136
REYNELL, P. C. A food-borne outbreak of streptococcal infection. (With 2 Figures in the Text)	148
MUSHIN, ROSE. An outbreak of gastro-enteritis due to Salmonella derby	151
RUBBO, SYDNEY D. Cross-infection in hospital due to Salmonella derby. (With Plates 5 and 6	101
and 3 Figures in the Text)	158
ANDERSON, E. S. and RICHARDS, H. G. H. An outbreak of typhoid fever in the Middle East	164
BISSET, K. A. Nuclear reorganization in non-sporing bacteria. (With Plate 7 and 11 Figures in the Text)	173
Donald, Kenneth W., Davidson, W. M. Surgeon LtCommander, and Shelford, W. O. Commander. Submarine escape breathing air. (With 4 Figures in the Text)	176
ALLEN, L. A., BLEZARD, N. and WHEATLAND, A. B. Formation of cyanogen chloride during chlorination of certain liquids. Toxicity of such liquids to fish. (With 3 Figures in the Text)	184
WALKER, A. R. P. The absorption of fat during the consumption of diets rich in whole-grain and white breads	194
Hobson, W. A dietary and clinical survey of pregnant women with particular reference to toxaemia of pregnancy. (With 3 Figures in the Text)	198
VAN TIEL, N. The toxicity of methallyl chloride and methyl bromide towards white rats. (With 1 Figure in the Text)	217
Hobbs, Betty C. A study of the serological type differentiation of Staphylococcus pyogenes	222
No. 3 (September 1948)	
Chu, C. M. Agglutination of red blood cells of different animal species by influenza and Newcastle disease viruses	239
Chu, C. M. Inactivation of haemagglutinin and infectivity of influenza and Newcastle disease viruses by heat and by formalin	247
Vogelsang, Th. M. and Bøe, Johs. Temporary and chronic carriers of Salmonella typhi and Salmonella paratyphi B	252
LAUGHTON, NANCY. The bacteriological interpretation of vaginal smears. (With Plate 8)	262
BISSET, K. A. Observations upon the bacterial nucleus. (With Plate 9 and 7 Figures in the Text)	264
BISSET, K. A. Natural antibodies in the blood serum of fresh-water fish	267
BARDSLEY, DORIS A. A study of coliform organisms in the Melbourne water supply and in animal faeces, with observations on their longevity in faeces and in soil	269
JORDAN, R. C. and JACOBS, S. E. Studies in the dynamics of disinfection. XIII. The nature of the probit-log survival-time relationship in disinfections of standard cultures of <i>Bact. coli</i> at 51° C. under various conditions of pH. (With 5 Figures in the Text)	280
JORDAN, R. C. and JACOBS, S. E. Studies in the dynamics of disinfection. XIV. The variation of the concentration exponents for hydrogen and hydroxyl ions with mortality level, using standard cultures of <i>Bact. coli</i> at 51°C. (With 2 Figures in the Text)	289

Contents	vii
	PAGE
COOMBS, R. R. A. and Hole, N. H. The conglutination phenomenon. IV. The importance of the choice of complement when examining antisera for the presence of complement-fixing or complement-absorbing antibodies. (With 18 Figures in the Text)	296
PARNELL, R. W. Notes on climate and morbidity	311
BRUCE, H. M. and EMMENS, C. W. The feeding and breeding of laboratory animals. VII. Methods of testing the adequacy of diets for breeding mice	315
OBERMER, E. Wartime rationing and nutrition in pregnancy. First communication	325
STEWART, F. H. Experiments on adaptive variation and rejuvenation. Bacillus dysenteriae Flexner, grown on media containing sulphanilamide, acriflavine, argyrol, neosalvarsan and no drug	331
KLIENEBERGER-NOBEL, EMMY. Capsules and mucoid envelopes of bacteria. (With Plates 10	345
and II)	349
	010
No. 4 (December 1948)	
DIXON, C. W. Smallpox in Tripolitania, 1946: an epidemiological and clinical study of 500	
cases, including trials of penicillin treatment. (With Plates 12 and 13, and 9 Figures in the Text)	351
DICKINSON, LOIS. The serological relationship between vaccinia and ectromelia viruses	378
Fenner, Frank. The epizootic behaviour of mousepox (infectious ectromelia of mice). II. The course of events in long-continued epidemics. (With 3 Figures in the Text).	383
Henderson, W. M. and Brooksby, J. B. The survival of foot-and-mouth disease virus in meat and offal. (With 1 Figure in the Text)	394
COOMBS, R. R. A., CROWHURST, R. C., DAY, F. T., HEARD, D. H., HINDE, I. T., HOOGSTRATEN, J. and Parry, H. B. Haemolytic disease of newborn foals due to iso-immunization of pregnancy. (With Plate 14 and 2 Figures in the Text)	403
Webb, J. Lewis and Webb, A. M. Lilly. A first record of <i>Brucella abortus</i> (Bang) in the cattle of Mauritius; and data on the possible occurrence locally of undulant fever in man. (With 1 Figure in the Text)	419
Evans, R. J. A simple method for the determination of bacterial sensitivity to sulphonamides by the use of blotting-paper disks. (With Plate 15)	422
CRONE, P. B. The counting of surface colonies of bacteria	426
VAN TIEL, N. The retention of methallyl chloride and methyl bromide by fumigated grain	431
BRUCE, H. M. and PARKES, A. S. Feeding and breeding of laboratory animals. VIII. Breeding of guinea-pigs. (With 6 Figures in the Text)	434
BABUDIERI, B. and BOCCIARELLI, D. Electron-microscope studies on relapsing fever spirochaetes. (With Plate 16)	438
Sainsbury, H. The problem of diabetes mellitus in school medical administration. (With 1 Figure in the Text)	440
BILLINGTON, N. S. The warmth of floors—a physical study. (With 9 Figures in the Text).	
MUNRO, A. F. and CHRENKO, F. A. The effects of air temperature and velocity and of various	
flooring materials on the thermal sensations and skin temperature of the feet. (With 6 Figures in the Text)	
Errata	465
Index of Authors	467
Index of Subjects	469