CONTENTS OF VOLUME XVII, No. 1, 1923.

(All rights reserved)

OBITUARY NOTICE ........................................... 1


III. The Bactericidal Action of Tellurium Derivatives of certain Aliphatic \( \beta \)-Diketones. By G. T. Morgan, E. A. Cooper and A. W. Burtt ........................................... 30

IV. Calcium Content of the Blood during Pregnancy. By S. T. Widdows ........................................... 34

V. A Method for the Quantitative Estimation of Choline in Blood. By J. S. Sharpe .................................................................................. 41

VI. The Inorganic Phosphorus Content of the Blood of Normal Children. (Preliminary Communication.) By G. H. Anderson ........................................................................ 43

VII. Seasonal Variations in the Dissolved Oxygen Content of the Water of the Thames Estuary. (With Special Reference to the Phenomenon of Supersaturation.) By W. Butler and J. H. Coste. (With three figures) ......................................................... 49

VIII. The Effect of Carbon Dioxide and Acetic Acid on the Osmotic Pressure of Haemoglobin. By H. C. Wilson. (With three figures) ......................................................... 59

IX. Ammonia Content of the Blood in Nephritis. By D. S. Russell ................................................................ 72

X. Thetelin:—A Growth-Controlling Substance obtainable from the Anterior Lobe of the Pituitary Body. By T. B. Robertson ........................................................................ 77

XI. A Note on the Hydrolysis of Pectin. By F. Tutton .............................................................................. 83

XII. Urease. Part I. The Chemical Changes Involved in the Zymolysis of Urea. By W. R. Fearon .................................................................................. 84

XIII. The Sterol Content of Cow's Milk. By F. W. Fox and J. A. Gardner ................................................... 94

XIV. On the Reduction of Methylene Blue by Tissue Extracts. By G. M. Wishart (With six graphs) ........................................................................ 103

XV. Note on the Sulphuric Acid Test for Liver Oils. By A. Harden and R. Robison ........................................ 115

XVI. Estimation of Sugar in the Blood. By E. G. B. Calvert. (With one figure and two curves) .................. 117

XVII. The Synthesis of Iminazolylglycine, the Lower Homologue of Histidine. By C. P. Stewart .................................................................................. 130

XVIII. The Formation of Vitamin A in Plant Tissues. II. By K. H. Coward. (With Plate I and three figures) ........................................................................ 134

XIX. The Association of Vitamin A with the Lipochromes of Plant Tissues. By K. H. Coward. (With one figure) ........................................................................ 145

For Notice to Contributors see page 2 of Wrapper

During 1923 the Journal will be published bi-monthly.

PRICES OF BACK NUMBERS AND VOLUMES.

In Paper covers.

Volumes I—VI. 31s. 6d. net per vol.

Volumes VII—VIII. In six numbers 31s. 6d. net per vol.

Volume IX, containing Index to Volumes I—X. In four numbers 31s. 6d. net per vol.

Index of Authors and Subjects in Volumes I—X. In five numbers 31s. 6d. net. 5s. 3d. net. (By post, 5s. 5d.)

Volume XI. (Out of print.)

Volumes XII—XIII. (Out of print.)

Volume XIV. 42s. net.

Volume XV. (Out of print.)

Single numbers from Volumes VII—XI. 10s. 6d. net each.

Quotations can be given by the publishers for bound copies of back volumes.

PRINTED IN ENGLAND BY THE SYNDICS OF THE PRESS AT THE CAMBRIDGE UNIVERSITY PRESS
CONTENTS

No. 1

OBITUARY NOTICE ................................................. 1

I. Some New Reactions for the Detection of Sterols. By G. S. WHITBY . . . . 5


III. The Bactericidal Action of Tellurium Derivatives of certain Aliphatic β-Diketones. By G. T. MORGAN, E. A. COOPER and A. W. BURT ................................................................. 30

IV. Calcium Content of the Blood during Pregnancy. By S. T. WIDDOWS .... 34

V. A Method for the Quantitative Estimation of Choline in Blood. By J. S. SHARPE .............................................. 41

VI. The Inorganic Phosphorus Content of the Blood of Normal Children. (Preliminary Communication.) By G. H. ANDERSON ................................................................. 43

VII. Seasonal Variations in the Dissolved Oxygen Content of the Water of the Thames Estuary. (With Special Reference to the Phenomenon of Supersaturation.) By W. BUTLER and J. H. COSTE. (With three figures) 49

VIII. The Effect of Carbon Dioxide and Acetic Acid on the Osmotic Pressure of Haemoglobin. By H. C. WILSON. (With three figures) ................................. 59

IX. Ammonia Content of the Blood in Nephritis. By D. S. RUSSELL........... 72

X. Tethelin,—A Growth-Controlling Substance obtainable from the Anterior Lobe of the Pituitary Body. By T. B. ROBERTSON .................. 77

XI. A Note on the Hydrolysis of Pectin. By F. TUTIN ........................................ 83

XII. Urease. Part I. The Chemical Changes Involved in the Zymolysis of Urea. By W. R. FEARON ............................................. 84

XIII. The Sterol Content of Cow's Milk. By F. W. FOX and J. A. GARDNER ... 94

XIV. On the Reduction of Methylene Blue by Tissue Extracts. By G. M. WISHART. (With six graphs) ........................................ 103

XV. Note on the Sulphuric Acid Test for Liver Oils. By A. HARDEN and R. ROBISON ............................................. 115

XVI. Estimation of Sugar in the Blood. By E. G. B. CALVERT. (With one figure and two curves) ........................................ 117

XVII. The Synthesis of Iminazolylglycine, the Lower Homologue of Histidine. By C. P. STEWART ........................................... 130

XVIII. The Formation of Vitamin A in Plant Tissues. II. By K. H. COWARD. (With Plate I and three figures) ............................. 134

XIX. The Association of Vitamin A with the Lipochromes of Plant Tissues. By K. H. COWARD. (With one figure) ............................. 145
XX. Studies in Anaemia. I. The Influence of Diet on the Occurrence of Secondary Anaemia following repeated Haemorrhages in Rats. By J. M. D. Scott. (With one chart) .................................................. 157
XXI. Studies in Anaemia. II. By J. M. D. Scott ........................................ 166
XXII. Respiratory Exchange in Fresh-water Fish. Part VI. On Pike (Esox lucius). By J. A. Gardner and G. King .................................................. 170
XXIII. The Rate of Reproduction in Artificial Culture of Colpidium colpoda. By D. W. Cutler and L. M. Crump. (With seven figures) .......... 174
XXIV. Influence of a Milk Diet on the Skeleton. By V. Korenchevsky and M. Carr. (With six figures) .................................................. 187
XXV. On the Effect of Deficiency of Iron in the Diet of Pigs. (Preliminary Communication.) By J. P. McGowan and A. Crichton .................. 204
XXVI. The Technique of Breeding Rats for Feeding Experiments. By G. A. Hartwell, E. C. Mottram and V. H. Mottram. (With three figures) 208
XXVII. Oxidising Enzymes. VI. A Note on Tyrosinase. By M. W. Osnlow .................................................................................. 216
XXVIII. Étude de l'Alimentation Artificielle chez le Pigeon et de la Défcience en Vitamines. Par J. Hoët. (With two graphs and Plate III) 220
XXIX. On the Theory of Gels. IV. By S. C. Bradford. (With Plate III) .... 230
XXX. The Balance of Anions and Kations in the Plasma in Nephritis. By J. Marrack. (With one figure and two charts) ......................... 240
XXXI. Rate of Liberation of Acid by ββ'-Dichlorodiethyl Sulphide and its Analogues in its Relation to the "Acid" Theory of Skin Vesication. By R. A. Peters and E. Walker. (With eight figures) ..................... 260
XXXII. The Reversibility of the Action of Urease of Soy Bean. By H. D. Kay. (With one figure) .................................................. 277
XXXIII. The Possible Significance of Hexosephosphoric Esters in Ossification. By R. Robinson ................................................................ 286
XXXIV. A Study of Rats on a Normal Diet Irradiated daily by the Mercury Vapour Quartz Lamp or kept in Darkness. By H. Goldblatt and K. M. Soames. (With Plate IV) .................................................. 294
XXXV. A Study of the Relation of the Quantity of Fat-soluble Organic Factor in the Diet to the Degree of Calcification of the Bones and the Development of Experimental Rickets in Rats. By H. Goldblatt. (With five charts and Plates V and VI) .................................................. 298
XXXVI. The Fermentation of Glucose and Fructose by Dried Yeast in the Simultaneous Presence of Phosphate and Sulphite. By F. Hemmi .................................................. 327
XXXVII. The Relation between Uric Acid and Allantoin Excretion in Hybrids of the Dalmatian Hound. By the late H. Osnlow. (With Plate VII) .................................................. 334
XXXVIII. The Hydrogen Ion Concentration of the Blood in certain Pathological Conditions, as determined by the Hydrogen Electrode and the Indirect Methods of Barcroft and Hasselbalch. By T. R. Parsons and E. P. Poulton. (With four figures) .................................................. 341
CONTENTS

XXXIX. The Effect of a Yeast Extract on the Oxygen Consumption of Washed Frog Muscle. By H. F. Holden .......................... 361

XL. The Effect of Air, which has been exposed to the Radiations of the Mercury-vapour Quartz Lamp, in Promoting the Growth of Rats, Fed on a Diet Deficient in Fat-soluble Vitamins. By E. M. Hume and H. H. Smith. (With four charts) ................ 364

No. 3

XLI. The Relation of Certain Blood Constituents to a Deficient Diet. By T. J. Thompson and I. L. Carr ........................... 373

XLII. The Purification of Insulin and some of its Properties. By H. W. Dudley. (With one figure) .................................. 376

XLIII. The Estimation of Ammonia and Urea in Urine and other Fluids. By S. Levy-Simpson and D. C. Carroll. (With three figures) .................. 391

XLIV. Note on the Estimation of Urea by Urease. By G. M. Wishart. (With one figure) .................................................. 403


XLVI. The Influence of Reaction on the Oxidation of the Antiscorbutic Factor in Lemon Juice. By S. S. Zilva. (With three figures) .......... 410

XLVII. A Note on the Conservation of the Potency of Concentrated Antiscorbutic Preparations. By S. S. Zilva ......................... 416

XLVIII. Artificial Partheno-genesis in Sea Urchins. A Note on an Improved Technique. By I. Frost ............................... 418

XLIX. A Simplified Method of Preparation of the Bezsonoff Reagent for Vitamin C and some Polyphenols. By N. Bezsonoff ............ 420


LI. A Note on the Estimation of the Carbon-Content of Solutions. By J. Needham. (With one Diagram) ......................... 431


Nos. 4 & 5


LV. The Tyrosinase-Tyrosine Reaction. By H. S. Raper and A. Wormald. (With one figure) ............................................. 454
LVI. The Isolation from Cabbage Leaves of a Carbohydrate, hitherto undescribed, containing Three Carbon Atoms. By H. W. Buston and S. B. Schryver ........................................... 470
LVII. Investigations on Gelatin. Part II. Researches on the Methods of Purifying Gelatin. By J. Knaggs, A. B. Manning and S. B. Schryver. (With three figures) ....................................................... 473
LVIII. Some Notes on the Determination of the Hausmann numbers of Proteins. By J. Knaggs ........................................... 488
LIX. The Hemicelluloses. I. The Hemicellulose of Wheat Flour. By D. H. F. Clayson and S. B. Schryver ........................................... 493
LX. The Hemicelluloses. II. The Hemicellulose Content of Starches. By S. B. Schryver and E. M. Thomas ........................................... 497
LXI. The Hemicelluloses. III. The Hemicellulose of American White Oak. By M. H. O'Dwyer ........................................... 501
LXII. Pectin and its Hypothetical Precursor, "Protopectin." By F. Tutin ........................................... 510
LXIII. Mechanism of Oxidation in the Plant. Part I. The Oxygenase of Bach and Chodat: Function of Lecithins in Respiration. By P. H. Gallagher ........................................... 515
LXIV. The Penetration of Electrolytes into Gels. V. The Diffusion of Mixtures of Chlorides in Gels. By W. Stiles. (With one figure) ..... 530
LXV. Bromoxylenol Blue. A True-Neutrality Point Indicator. By A. Cohen ........................................... 535
LXVI. Blood Enzymes. III. On the Glycogenolytic Activity of Mammalian Sera—With Remarks on Serum Toxicity. By A. Compton. (With three figures) ........................................... 536
LXVII. The Acid Nature of Oxyhaemoglobin. By A. V. Hill. (With one figure) ........................................... 544
LXVIII. Note on the Colour Changes in Rats' Fur Produced by Alterations in Diet. By G. A. Hartwell ........................................... 547
LXIX. A Heat-Stable Catalyst in Animal Tissues which destroys the Iminazole Ring and Unmasks Amino Groups. By W. M. Clifford. (With three figures) ........................................... 549
LXX. Polarimetric Observations on Solutions of Glucose subjected to Contact with Intestinal Mucosa of Rabbit. By D. Stiven and E. W. Reid ........................................... 556
LXXI. Uric Acid and Allantoin Excretion among Offspring of Dalmatian Hybrids. By the late H. Osslow. (With one figure and Plate VIII) ..... 564
LXXII. The Effects of Vitamin-Deficient Diets on the Adrenaline Equilibrium in the Body. By L. Gross ........................................... 569
LXXIII. The Oxygen Content of Methaemoglobin. By H. E. Roaf and W. A. M. Smart. (With one figure) ........................................... 579
LXXV. On the Presence of Maltase in Germinated and Ungerminated Barley. By A. R. Ling and D. R. Nanji ........................................... 593
LXXVI. The Influence of the Antenatal Feeding of Parent Rats upon the Number, Weight and Composition of the Young at Birth. By V. Korenchevsky and M. Carr ........................................... 597
CONTENTS


LXXVIII. Adsorption and Mechanism of Poisoning. Part I. Irritant Poisons. By T. N. Seth. (With two figures)

LXXIX. The Supplementary Value of Light Rays to a Diet Graded in its Content of Fat-Soluble Organic Factor. By H. Goldblatt and K. M. Soames

LXXX. The Distribution of Carnosine in the Muscles of the Normal and Decerebrate Cat. By T. Mitsuda

LXXXI. The Properties of Colloidal Gum Benzoin. By H. D. Wright and W. O. Kermack. (With three figures)

LXXXII. The Mechanism of Precipitation of Colloidal Gum Benzoin by Cerebrospinal Fluid. By H. D. Wright and W. O. Kermack. (With two figures)

LXXXIII. Observations on the Solubility of Insulin. By E. M. P. Widmark

No. 6

LXXXIV. Observations on Certain Reducing and Oxidising Reactions in Milk. By P. Haas and T. G. Hill. (With two figures)

LXXXV. Studies on Carbohydrate Metabolism. II. On the Preparation of an Anti-Diabetic Hormone from Yeast. Part I. By H. B. Hutchinson, W. Smith and L. B. Winter. (With one figure)

LXXXVI. The Basic Dissociation Constant of Valine. By L. J. Harris. (With one figure)

LXXXVII. On the Significance of the Ash Content of Certain Marine Algae. By P. Haas and B. Russell-Wells

LXXXVIII. The Influence of Cod-Liver Oil, Linseed Oil and Olive Oil on the Assimilation of Calcium and Phosphorus in the Growing Pig. By A. D. Husband, W. Godden and M. B. Richards. (With three graphs)

LXXXIX. Carbohydrate and Fat-Metabolism in Yeast. By I. Smedley MacLean and D. Hoffert. (With six figures)

XC. Studies in Bacterial Nutrition. I. By H. R. Whitehead

XCI. The Fluidity and Coagulation of the Blood. By J. W. Pickering and D. H. de Souza. (With two figures)

XCII. An Iodometric Method for the Estimation of Nitrogen in Osa-zones. By D. R. Nanji

XCIII. Studies on Carbohydrate Metabolism. III. On the Formation of an Anti-Diabetic Hormone by the Action of a Bacillus. (Preliminary Communication.) By H. B. Hutchinson, W. Smith and L. B. Winter

XCIV. The Evaluation of the Purity of Various Organic Products by the Dichromate Method. By E. C. Grey


XCVIII. Urease. Part II. The Mechanism of the Zymolysis of Urea. By W. R. FEARON. 800

XCIX. The Influence of Surface Tension on the Growth of Bacteria. By C. G. L. WOLF. (With one figure). 813

C. The Constitution of Galegine. By G. BARGER and F. D. WHITE. 827

CII. Galuteolin, a New Glucoside from Galega Officinalis. By G. BARGER and F. D. WHITE. 836

CIII. Improvements in Colorimetry. By R. V. STANFORD. (With two figures). 839

CIV. Method for the Rapid and Quantitative Removal of Ammonia from Solutions, especially applicable to the Microquantitative Estimation of Nitrogen and Urea in Products of Living Origin. By R. V. STANFORD. (With one figure). 847

CV. The Azine and Azonium Compounds of the Proteolytic Enzymes. I. By H. R. MARSTON. 851

CVI. Some Experiments and Remarks on the Possible Transformation of d-Glucose in the Intestine and on the Nature of Blood-Sugar. By S. VAN CREVELD. 860

CVII. The Alleged Specific Colour Reaction for the Antiscorbutic Factor. By H. D. KAY and S. S. ZILVA. 872


CIX. The Rate of Reproduction in Artificial Culture of Colpidium colpoda. Part II. By D. W. CUTLER and L. M. CRUMP. (With two figures). 878

CX. A Preliminary Note on the Destruction of Vitamin B by Age. By G. M. FINDLAY. (With five figures). 887

CXI. The Absorption Spectra of some Indole Derivatives. By F. W. WARD. (With four figures). 891

CXII. The Absorption Spectra of some Amino Acids. The Possible Ring Structure of Cystine. By F. W. WARD. (With two figures). 898

CXIII. The Absorption Spectra of Kynurenic Acid and some Related Quinoline Compounds. By F. W. WARD. (With three figures). 903

CXIV. The Fate of Indolepropionic Acid in the Animal Organism. By F. W. WARD. (With four figures). 907

CXV. Colloids and Hæmolysis. By J. W. PICKERING and F. E. TAYLOR. 916

INDEX. 929