CONTENTS

NUMBER 1, MAY, 1931

I. The Pharmacology of Some Compounds Allied to Chioral and to Urethane. By K. J. Franklin ........................................... 1
II. The Action of Ergotamine on the Response of the Rabbit's Gut to Adrenaline. By T. C. Nanda ................................................. 9
III. Chemotherapy of Bacterial Infections. III. The Specific Relation Between Chemical Constitution and Kind of Bacterial Infection. By Ernest Linwood Walker, Marion A. Sweeney and Benjamin L. Freedlander .................................................. 17
IV. The Effect of Sodium Phenobarbital and the Antagonism of Morphine to Phenobarbital and to Pituitary Extract in Intact Intestine in Non-anesthetized Dogs. By C. M. Gruber, W. M. Crawford, W. W. Greene and C. S. Drayer .................................................. 27
VI. On the Action of Scillaren B (from Squills) upon the Heart and Blood Vessels. By R. L. Stehle, J. B. Ross and N. B. Dreyer .................................................. 45
VII. The Effect of Caffeine on the Oxygen Consumption of Fish and Tadpoles. By Floyd J. Brinley ........................................... 59
VIII. The Relation of the Edema of Paraphenylenediamine to Generalized Edema. By O. S. Gibbs ........................................... 65
IX. The Oxygen Consumption of Frog Muscle in Chemical Contractures. By Wallace O. Fenn ........................................... 81
X. Lactic Acid Formation in Contractures. By Albert H. Hegnauer .............. 99
XI. The Comparative Toxicity of Merbaphen and Salyrgan. By Ben I. Johnstone .................................................. 107
XII. The Relative Activity of Ergotoxine and Ergotamine. By E. Lozinski, G. W. Holden and G. R. Diver ........................................... 123

NUMBER 2, JUNE, 1931

XIII. A Method of Photographic Registration of Small Volume Changes with Some Results When Applied to the Trachea. By H. Florey and A. Q. Wells ........................................... 133
XIV. The Biological Assay of Ergot Preparations. II. The Use of the Paralysis of the Renal Vasomotors as an Assay Method. By George A. Wulp and Erwin E. Nelson ........................................... 143
XV. The Distributions and Concentrations of Water and Halides in the Blood and Urine During Diuresis-inhibition by Pituitary Extract. By A. R. McIntyre and H. B. van Dyke ........................................... 155
CONTENTS

XVII. Human Absorption of Magnesium with and without Aspirin and Other Adjuvants. By J. E. Winter and C. H. Richey .......................................................... 179
XVIII. The Effect of Sodium Thiosulphate on Mercury Poisoning. By A. G. Young and F. H. L. Taylor .................................................................................. 185
XIX. Diffusibility of "Female Sex Hormone" into the Spinal Fluid and Its Relationship to the Oxytocic Activity of Spinal Fluid. By Richard W. Whitehead and O. Leonard Huddleston .......................................................... 197
XX. The Effect of Evaporation and Radiation on Nicotine Solutions. By John Higgins, Paul L. Ewing and Hugh A. McGuigan .......................................................... 213
XXI. Chronic Experimental Barbital Poisoning. By M. H. Seevers and A. L. Tatum ........................................................................................................... 217
XXII. The Influence of Adrenalin, Pituitrin, Histamine and Peptones on the Volume of the Liver. By Frederick E. Emery and Fred R. Griffith, Jr. .......................................................... 233
XXIII. Studies on Calcium. IV. Blood Calcium Changes Following Administration of Calcium Gluconate Given Subcutaneously to Normal and Parathyroidectomized Dogs and Per Os to Human Beings. By Arnold L. Lieberman ................................................................................. 245

NUMBER 3, JULY, 1931

XXIV. The Scientific Proceedings of the American Society for Pharmacology and Experimental Therapeutics:
The Effect of Iodides on the Nitrogen and Sulphur Metabolism in Bright's Disease. By G. P. Grabfield ................................................................................. 253
The Action of Arsenic on the Fixed Sulphhydrl Groups in Proteins. By Sanford M. Rosenthal .......................................................................................... 254
Further Evidence of Cooperation of a Trypanosome Infected Host in Arsenotherapy. By V. A. Benn and G. A. Cooper (introduced by A. L. Tatum) .......................................................... 254
The Catalytic Action of Copper in the Oxidation of Crystalline Glutathione. By Carl Voegtlin, J. M. Johnson and S. M. Rosenthal .......................................................... 256
The Oxygen Content of Blood in Nitrous Oxide Anesthesia. By G. H. W. Lucas and V. E. Henderson .................................................................................. 257
Anesthetic Potency in the Cyclo Hydrocarbon Series. By Velyien E. Henderson and J. F. A. Johnston (by invitation) ................................................................................. 257
Sensory Action Currents as a Means of Testing Local Anesthetics. By Richard Homer Fitch (introduced by J. A. E. Eyster) ................................................................................. 257
A Rational Theory of Narcosis in Comparison with the Hitherto Discussed Empirical Theories. By R. Beutner .................................................................................. 258
Effects on Weight and Tolerance Development of Repeated Injections of Nicotine in the White Rat. By Allen Behrendt (by invitation) and C. H. Thienes (by invitation) .......................................................... 260
The Action of Diuretics in the Normal Individual. By Norman M. Keith 260

The Biological Assay of Pituitary Preparations for Their Antidiuretic Activity by Victor E. Nelson (by invitation) and Erwin E. Nelson 261

The Antagonistic Action of Ephedrine (or Adrenaline) upon the Coronary Constriction Produced by Pituitary Extract and Its Effect upon the Blood Pressure. By K. I. Melville (by invitation) and R. L. Stehle 261

Depressor Effects of the Standard Pituitary Powder. By E. Larson (introduced by A. E. Livingston) 262

A Method for the Study of the Biological Potency of Thyroid Preparations. By J. H. Draitze (by invitation) and A. L. Tatum 262

Early Changes in the Blood Chemistry of Trained Unanesthetized Dogs in Response to Crystalline Insulin, to Pitressin, and to Pitocin. By E. M. K. Geiling, A. DeLawder (by invitation) and Morris Rosenfeld (by invitation) 263

Further Studies on Ergotoxine Miosis. By Frederick F. Yonkman (introduced by W. L. Mendenhall) 263

Effect of Scarlet Fever Toxin on Ciliary Activity. By W. L. Mendenhall and Alice B. Adams (by invitation) 264

The Demonstration of a Digitalis-like Body in Dropsical Fluids of Patients Treated with Digitalis and the Possible Clinical Significance of this Finding. By George H. Miller 264

Influence of Barometric Changes on the Potency of Digitalis for Cats. By D. I. Macht 265

The Influence of Motor Nerve "Fatigue" on the Removal of a Curare Block of Physostigmin. By T. E. Boyd 265

Hexyiresorcinol as an Anthelmintic. By P. D. Lamson 265

Quantitative Studies on the Absorption and Excretion of Hexyiresorcinol and Heptylresorcinol under Different Conditions. By B. H. Robbins (introduced by Paul D. Lamson) 265

The Action of the Principles of Chan Su, the Dried Venom of the Chinese Toad. By K. K. Chen, H. Jensen, A. L. Chen (by invitation) 266

The Action of Bufagin and Marinobufotoxin, Obtained from the Secretion of Bufo agua. By K. K. Chen, H. Jensen, A. L. Chen (by invitation) 266

A Comparison of the Intraperitoneal and Oral Effects of the Barbituric Acid Derivatives. By R. H. Fitch and E. E. McCandless (introduced by A. L. Tatum) 266

Picrotoxin as an Antidote in Acute Poisoning by Barbiturates. By A. H. Maloney (introduced by A. L. Tatum) 267

Further Studies on Barbiturate Extraction. By R. P. Herwick (introduced by A. L. Tatum) 268

Antagonism of Alkaline Earth to Alkali Metal Cations as Manifested in Changes of the After-potential of Nerve. By Helen Tredway Graham (introduced by H. S. Gasser) 269

The Determination of Hydrogen Ion Concentration with Thick Glass Membranes. By Floyd DeEds and H. Kahler (by invitation) 270
CONTENTS

The Effect of Tribromethanol on Venous, Intraocular and Intracranial Pressures. By M. H. Seevers, R. M. Waters (by invitation), and F. A. Davis (by invitation) ................................................................. 270

The Response of the Intact Small Intestine on Non-anesthetized Dogs to Some Cathartic Agents, to Morphine and to Atropine. By Charles M. Gruber, William T. K. Bryan (by invitation) and Lyman K. Richardson (by invitation) ........................................... 271

Blood Alcohol Estimation and Its Relation to Intoxication. By R. G. Turner (introduced by E. W. Rockwood) ................................................................. 272

Effect of Estrin Injections on the Anterior Lobe. By F. F. D'Amour (introduced by R. G. Gustavson) ................................................................. 272


The Action of Anesthetic Drugs on the Motor Cortex of Monkeys. By A. D. Keller (by invitation) and J. F. Fulton ................................................................. 272

The Effect of Alpha-lobelin on the Blood Sugar Level of Adrenalectomized Albino Rats. By F. S. Randles (introduced by M. Dresbach) ................................................................. 272

The Effect of Sodium Amytal on the Blood Sugar Level in the Albino Rat and the Dog. By M. Dresbach and F. S. Randles (by invitation) ................................................................. 273

The Potentiation of Strychnine by Quinine. By James C. Munch (introduced by William T. McClosky) ................................................................. 274

Anterior Pituitary-like Antacoids in Human Amniotic Fluid. By O. Leonard Huddleston (by invitation) and R. W. Whitehead ................................................................. 274

The Gonad-stimulating Substances of Pregnancy-urine and the Anterior Lobe of the Pituitary Body. By Zonja Wallen-Lawrence (by invitation) and H. B. van Dyke ................................................................. 275

Experimental Infiltration Anesthesia. (Demonstration.) By A. L. Tatum ................................................................. 276

XXV. Toxicity of Several Allotropic Modifications of Germanic Oxide. By John Hughes Muller ................................................................. 277

XXVI. Studies on Electrodialysis of Epinephrin. By William Devrient, Stephen Thyssen and Boris Sokoloff ................................................................. 299

XXVII. The Influence of Magnesium Chlorid upon the Narcotic and Toxic Effects of Sodium Barbital. By H. G. Barbour and W. F. Taylor ................................................................. 321

XXVIII. The Effect of Dilution on the Lethal Properties of a Poison. By Trilok Nath Seth ................................................................. 333

XXIX. The Influence of Quinon on Cells. By G. Lejhanec, I. A. Parfentjev and Boris Sokoloff ................................................................. 343

XXX. Hormones in Cancer. II. The Effect of Various Hormone Preparations upon Rat Sarcoma 10 and Hyde Rat Carcinoma. By Fritz Bischoff and L. C. Maxwell. With the Technical Assistance of Ella May Ottery ................................................................. 387
| XXXI. | The Fate of Intraocular Injections of Sodium Bismuth Tartrate and Sodium Bismuth Citrate. By W. F. von Oettingen | 401 |
| XXXIII. | Relation between the Action of Histamin, Atropin, Adrenalin, and Heavy Metals on the Intestine. By Frederick Bernheim | 441 |
| XXXIV. | The Antagonistic Action of Ephedrine (or Adrenaline) upon the Coronary Constriction Produced by Pituitary Extract and Its Effect upon Blood Pressure. By K. I. Melville and R. L. Stehle | 455 |
| XXXV. | Sleep Produced by Hypnotics Studied by the Electrical Skin Resistance Method. By Curt P. Richter | 471 |
| XXXVI. | Index | 487 |
ILLUSTRATIONS

The antagonism between ergotamine and adrenaline in isolated strips of the rabbit's duodenum and ileum (Fig. 1) .................................................. 10
Action of adrenaline and ergotamine on rabbit's colon (Fig. 2) ............. 11
Estimation of ergotamine-adrenaline antagonism on rabbit's ileum (Fig. 3) . 13
— of ergotamine-adrenaline antagonism on rabbit's duodenum (Fig. 4) .... 13
Non-anesthetized 15-kgm. dog (Fig. 1) .................................................. 29
— 12-kgm. dog (Fig. 1) ........................................................................ 30
— 14-kgm. dog (Fig. 3) ........................................................................ 31
— dog (Fig. 4) ..................................................................................... 32
— 9.5-kgm. dog (Fig. 1) .................................................................... 39
— 15-kgm. dog (Fig. 2) ...................................................................... 40
— 14-kgm. dog (Fig. 3) ...................................................................... 41
On the action of scillaren B (from squills) upon the heart and blood vessels (Fig. 1) ................................................................. 47
— the action of scillaren B (from squills) upon the heart and blood vessels (Fig. 2) ................................................................. 49
— the action of scillaren B (from squills) upon the heart and blood vessels (Fig. 3) ................................................................. 50
— the action of scillaren B (from squills) upon the heart and blood vessels (Fig. 4) ................................................................. 51
— the action of scillaren B (from squills) upon the heart and blood vessels (Fig. 5) ................................................................. 52
Chart showing the results of the experiments on the effect of caffeine on the oxygen consumption of fish (Erimyson sucette oblongus, Mitchell) (Fig. 1) ................................................................. 61
— showing the effect of caffeine on the oxygen consumption of tadpoles (Rana catesbiana) (Fig. 2) ................................................................. 62
The effects of solutions of caffeine in Ringers on the rate of oxygen consump-
tion of the sartorius muscle of the frog (Fig. 1) ........................................ 83
— effects of solutions of quinine in Ringers on the rate of oxygen consump-
tion of the sartorius muscle of the frog (Fig. 2) ........................................ 83
— increased oxygen consumption caused by acids and alkalis (Fig. 3) ... 85
— increased oxygen consumption of the sartorius muscle due to contrac-
tures from nicotine, acetylcholine etc. (Fig. 4) ........................................ 88
— increased oxygen consumption in various types of contracture of the sar-
torius muscle (Fig. 5) ........................................................................ 91
— effect of temperature on the contracture due to 1.3 per cent potassium sulphate (Fig. 6) ................................................................. 94
Isometric record of caffeine contractures in frog sartorii (Fig. 1) .......... 104
The comparative toxicity of merbaphen and salyrgan (Fig. 1) ............... 114
— comparative toxicity of merbaphen and salyrgan (Fig. 2) ............... 115
The comparative toxicity of merbaphen and salyrgan (Fig. 3) 116
A method of photographic registration of small volume changes with some
results when applied to the trachea (Fig. 1) 134
The biological assay of ergot preparations (Fig. 1) 144
Studies in adsorption (Fig. 1) 170
Effect of oral administration of 9.5 grams MgCl₂ on gastric acidity (Fig. 1) 180
Graphs illustrating the uterine response following the addition of female sex
hormone preparations and cerebrospinal fluid to the bath surrounding
the isolated guinea pig uterus (Fig. 1) 204
Blood pressure and liver volume in a cat (Fig. 1) 235
The influence of adrenalin, pituitrin, histamine and peptones on the volume
of the liver (Fig. 2) 236
Blood pressure and liver volume in a rabbit (Fig. 3) 237
The influence of adrenalin, pituitrin, histamine and peptones on the volume
of the liver (Fig. 4) 239
ILLUSTRATIONS

The influence of adrenalin, pituitrin, histamine and peptones on the volume of the liver (Fig. 5) 240

Studies on calcium (Fig. 1) .................................................. 247
--- on calcium (Fig. 2) .................................................. 247
--- on calcium (Fig. 3) .................................................. 249
--- on calcium (Fig. 4) .................................................. 249
--- on calcium (Fig. 5) .................................................. 250
--- on calcium (Fig. 6) .................................................. 250

Effect of intraperitoneal injection of several allotropic forms of germanic oxide (Fig. 1) 284
--- of repeated doses of colloidal solution of germanic oxide (Fig. 2) 292
--- of repeated doses of crystalline germanic oxide solution (Fig. 3) 293

Studies on electrodialysis of epinephrin (Fig. 1) 301
--- on electrodialysis of epinephrin (Fig. 2) 308
--- on electrodialysis of epinephrin (Fig. 3) 313
--- on electrodialysis of epinephrin (Fig. 4) 315

Rabbit narcotic and toxic dosage of sodium barbital, magnesium chlorid and their combinations (Fig. 1) 325

Rabbits injected with sodium barbital (left) and sodium barbital plus magnesium (right) (Fig. 2) 329

Dilution and lethal properties of poison (Fig. 1) 335
--- and lethal properties of poison (Fig. 2) 336
--- and lethal properties of poison (Fig. 3) 337
--- and lethal properties of poison (Fig. 4) 338
--- and lethal properties of poison (Fig. 5) 339
--- and lethal properties of poison (Fig. 6) 340

The influence of quinon on the oxygen consumption of yeast suspended in water (Fig. 1) 347
--- influence of quinon on the oxygen consumption of yeast suspended in nutritive solution (Fig. 2) 347
--- influence of quinon on the mortality of yeast cells (Fig. 3) 349
--- influence of quinon on the multiplication of yeast cells (Fig. 4) 350
--- influence of different quinon concentrations on the multiplication of yeast cells (Fig. 5) 352

Relation between the action of histamin, atropin, adrenalin, and heavy metals on the intestine (Figs. 1A and 1B) 442
--- between the action of histamin, atropin, adrenalin, and heavy metals on the intestine (Fig. 2) 443

Showing that increasing amounts of histamin do not affect the amount of relaxation due to adrenalin (Fig. 3A) 446
--- that the amount of relaxation due to adrenalin is a function of the amount of adrenalin added (Fig. 3B) 446

Action of histamin, atropin and adrenalin (Fig. 4) 448
--- of histamin, atropin and adrenalin (Fig. 5) 450
--- of histamin, atropin and adrenalin (Fig. 6) 453
--- of ephedrine on coronary constriction (Fig. 1) 458
--- of ephedrine on coronary constriction (Fig. 2) 459
--- of ephedrine on coronary constriction (Fig. 3) 460
ILLUSTRATIONS

Action of ephedrine on coronary constriction (Figs. 4 and 5) .................. 461
— of ephedrine on coronary constriction (Fig. 6) .............................. 462
Gibbs’ artificial heart preparation (Figs. 7 and 8) .............................. 463
Graphs showing the large increase in the electrical resistance of the skin on the pads of the cat’s feet produced by paraldehyde (Fig. 1) .......... 474
— showing that a greater effect is produced in the hind- than in the fore-feet by paraldehyde (Fig. 2) ................................................. 475
— showing the large increase in electrical resistance produced by chloral hydrate (Fig. 3) .............................................................. 478