CONTENTS

NUMBER 1, APRIL, 1919


II. Concerning the Action of Local Anesthetics on Striated Muscle. By Seiko Kubota and David I. Macht ........................................ 31

III. Adenine Mononucleotide. By Walter Jones and R. P. Kennedy ...... 45

IV. Drug Action as Modified by Disease Toxins. I. Ouabain vs. Diphtheria Toxin. By A. D. Bush ........................................ 55

V. The Action of Viburnum Prunifolium. By B. H. Hager and F. C. Becht. 61

NUMBER 2, MAY, 1919

VI. On Optical Isomers. V. The Tropeines. By A. R. Cushny ............ 71

VII. The Action of Drugs upon the Output of Epinephrin from the Adrenals. I. Strychnine. By G. N. Stewart and J. M. Rogoff ......... 95

NUMBER 3, JUNE, 1919

VIII. The Action of Drugs on the Output of Epinephrin from the Adrenals. II. Concentrated Salt Solutions (Sodium Carbonate) Injected into the Circulation. By G. N. Stewart and J. M. Rogoff ............ 167

IX. The Action of Drugs on the Output of Epinephrin from the Adrenals. III. Nicotine. By G. N. Stewart and J. M. Rogoff ............ 183

X. On the Presence of Histamine (β-Iminazolyl-Ethylamine) in the Hypophysis Cerebri and Other Tissues of the Body and Its Occurrence Among the Hydrolytic Decomposition Products of Proteins. By John J. Abel and Seiko Kubota .................................... 243

NUMBER 4, JULY, 1919

XI. A Comparison of the Influence of Secretine and the Antineuritic Vitamin on Pancreatic Secretion and Bile Flow. By Carl Voegtlin and C. N. Myers .................................................. 301

XII. Experimental Irrigation of the Subarachnoid Space. By Lewis H. Weed and Paul Wegeforth ........................................ 317

XIII. The Effect of Subarachnoid Injections of Antiseptics upon the Central Nervous System. By Paul Wegeforth and Charles R. Essick .... 335

XIV. Benzyl Alcohol: Its Anesthetic Efficiency for Mucous Membranes. By Torald Sollmann .................................................. 355

XV. The Action of Drugs on the Output of Epinephrin from the Adrenals. IV. Strophanthin. By G. N. Stewart and J. M. Rogoff ............ 361

XVI. Demonstration That the Spontaneously Liberated Epinephrin Can Exert an Action upon the Heart. By G. N. Stewart and J. M. Rogoff. 397
CONTENTS

NUMBER 5, AUGUST, 1919


XVIII. Action of Adrenalin on the Spleen. By Frank A. Hartman and Ross S. Lang .......................................................... 417

XIX. Comparative Activity of Local Anesthetics. VI. Difficultly Soluble Anesthetics on Mucous Membranes. By Torald Sollmann .......... 429

XX. A Further Contribution to the Pharmacology of the Local Anesthetics. By Cary Eggleston and Robert A. Hatcher .................. 433

XXI. The Application of the Kjeldahl Method to Compounds of Brucine, with Reference to the Brucine Salt of a New Nucleotide. By Walter Jones .......................................................... 489

XXII. Iodin: Effect on Fibrous Nodules. By Torald Sollmann .......... 495

XXIII. Scientific Proceedings of the American Society for Pharmacology and Experimental Therapeutics ........................................ 499
ILLUSTRATIONS

Skin irritant vapor apparatus (Fig. 1) .......................... 6
Relation of time and concentration in threshold burns on P. V. B. (Fig. 2) .... 8
— of time and concentration in threshold burns on J. G. (Fig. 3) ......... 9
(Fig. 4) ........................................................................ 16
(Fig. 5) ........................................................................ 16
(Fig. 6) ........................................................................ 23
Concentration curve of frog's gastrocnemius (curarized) (Fig. 1) .... 36
— of frog's gastrocnemius (curarized) (Fig. 2) ..................... 36
— and fatigue curves of rat's gastrocnemius (Fig. 3) ......... 38
Fatigue curve of frog's gastrocnemius (curarized) (Fig. 4) .... 39
Dog, nonpregnant (Fig. 1) .............................................. 63
Rabbit, pregnant (Fig. 2) ............................................... 65
Dog, nonpregnant (Fig. 3) .............................................. 66
— nonpregnant (Fig. 4) ................................................. 67
Amounts of secretion are shown along the vertical, the time along the hori-
zontal lines (Fig. 1) ..................................................... 73
Graphs of secretion under pilocarpine (Fig. 2) ....................... 74
— of secretion under pilocarpine (Fig. 3) ......................... 75
— of pilocarpine secretion (Fig. 4) ................................ 76
— of pilocarpine secretion (Fig. 5) ................................ 82
— of pilocarpine secretion (Fig. 6) ................................ 83
— of pilocarpine secretion (Fig. 7) ................................ 84
— of pilocarpine secretion (Fig. 8) ................................ 85
— of pilocarpine secretion (Fig. 9) ................................ 85
— of pilocarpine secretion (Fig. 10) ................................ 92
Intestine tracings. Bloods from Dog 307 (Fig. 1) ................. 98
— tracings. Bloods from Dog 307 (Fig. 2) ....................... 99
— tracings. Bloods from Dog 307 (Fig. 3) ....................... 100
— tracings. Bloods from Dog 257 (Fig. 4) ....................... 110
— tracings. Bloods from Dog 257 (Fig. 5) ....................... 111
— tracings. Bloods from Dog 257 (Fig. 6) ....................... 112
— tracings. Bloods from Dog 246 (Fig. 7) ....................... 114
— tracings. Bloods from Dog 243 (Fig. 8) ....................... 116
— tracings. Bloods from Dog 248 (Fig. 9) ....................... 118
Uterus tracings. Bloods from Dog 248 (Fig. 10) ................. 119
Intestine tracings. Bloods from Dog 306 (Fig. 11) .............. 124
— tracings. Bloods from Dog 306 (Fig. 12) .................... 124
— tracings. Bloods from Dog 306 (Fig. 13) .................... 125
— tracings. Bloods from Dog 306 (Fig. 14) .................... 125
Uterus tracings. Bloods from Dog 306 (Fig. 15) ................. 126
Intestine tracings. Bloods from Dog 309 (Fig. 16) .............. 129
— tracings. Bloods from Dog 309 (Fig. 17) .................... 130
Blood pressure tracings from Dog 278 (Fig. 18) ............... 131
— pressure tracings from Dog 278 (Fig. 19) .................... 132
Blood pressure tracings from Dog 278 (Fig. 20) ........................................ 134
— pressure tracings from Dog 278 (Fig. 21) ........................................ 135
Uterus tracings. Bloods from Cat 228 (Fig. 22) ........................................ 138
Intestine tracings. Bloods from Cat 239 (Fig. 23) ........................................ 140
— tracings. Bloods from Cat 225 (Fig. 24) ........................................ 143
— tracings. Bloods from Cat 259 (Fig. 25) ........................................ 145
— tracings. Bloods from Cat 238 (Fig. 26) ........................................ 149
— tracings. Bloods from Cat 308 (Fig. 27) ........................................ 151
— tracings. Bloods from Cat 258 (Fig. 28) ........................................ 151
Blood pressure tracings (Fig. 1) .................................................. 173
Intestine tracings (Fig. 2) .......................................................... 175
— tracings. Bloods from Cat 281 (Fig. 1) ........................................ 180
Blood pressure tracing. Cat 283 (Fig. 2) ........................................ 183
Intestine tracings. Bloods from Cat 283 (Fig. 3) ........................................ 194
— tracings. Bloods from Cat 283 (Fig. 4) ........................................ 195
Blood pressure tracing. Cat 284 (Fig. 5) ........................................ 197
Intestine tracings. Bloods from Cat 284 (Fig. 6) ........................................ 198
— tracings. Bloods from Cat 284 (Fig. 7) ........................................ 199
— tracings. Bloods from Cat 284 (Fig. 8) ........................................ 200
Blood pressure tracing. Cat 285 (Fig. 9) ........................................ 202
Intestine tracings. Bloods from Cat 285 (Fig. 10) ........................................ 203
— tracings. Bloods from Cat 285 (Fig. 11) ........................................ 204
Uterus tracings. Bloods from Cat 285 (Fig. 12) ........................................ 205
Blood pressure tracing. Cat 286 (Fig. 13) ........................................ 207
Intestine tracings. Bloods from Cat 286 (Fig. 14) ........................................ 208
— tracings. Bloods from Cat 286 (Fig. 15) ........................................ 209
— tracings. Bloods from Cat 286 (Fig. 16) ........................................ 209
Uterus tracings. Bloods from Cat 286 (Fig. 17) ........................................ 210
Blood pressure tracing. Cat 298 (Fig. 18) ........................................ 213
Intestine tracings. Bloods from Cat 298 (Fig. 19) ........................................ 214
Blood pressure tracing. Cat 311 (Fig. 19A) ........................................ 216
— pressure tracing. Cat 303 (Fig. 20) ........................................ 219
— pressure tracing. Cat 305 (Fig. 21) ........................................ 223
Intestine tracings. Bloods from Cat 305 (Fig. 22) ........................................ 226
— tracings. Bloods from Cat 305 (Fig. 23) ........................................ 227
— tracings. Bloods from Cat 10 (Fig. 24) ........................................ 230
Blood pressure tracing. Cat 299 (Fig. 25) ........................................ 232
— pressure tracing. Cat 299 (Fig. 26) ........................................ 233
— pressure tracing. Cat 299 (Fig. 27) ........................................ 234
— pressure tracing. Cat 299 (Fig. 28) ........................................ 235
Comparative activity of the picrate prepared from the pituitary gland and
the picrate of histamine on the blood pressure of the cat (Fig. 1) ............ 257
— activity of the picrate prepared from the pituitary gland and the
picrate of histamine on the uterus of the virgin guinea pig (Fig. 2) ....... 258
Action of a chloroform extract from the pituitary gland on the blood pres-
sure of the rabbit compared with that of histamin hydrochloride (Fig. 3) 259
Comparative activity of a picrate, prepared from the intestinal and gastric
mucosa of the dog, on the blood pressure of the cat (Fig. 4) ................. 263
— activity of the two picrates used for figure 4 on the uterus of the virgin
guinea pig (Fig. 5) ........................................................................ 264
Effect of a chloroform extract from dog’s liver on the blood pressure of the cat and of the rabbit (Fig. 6) .................. 266
— of a chloroform extract from dog’s liver on the uterus of a virgin guinea pig (Fig. 7) .......................... 267
— of an impure sulphate prepared from dog’s muscle on the blood pressure of the cat (Fig. 8) .............. 268
— of an impure sulphate prepared from dog’s muscle on the blood pressure of the rabbit (Fig. 9) .............. 269
— of an impure sulphate prepared from dog’s muscle on the uterus of the virgin guinea pig (Fig. 10) ......... 270
— of an impure picrate prepared from erepton on the blood pressure of the cat (Fig. 11) ...................... 271
— of 0.25 gram erepton on the blood pressure of the rabbit (Fig. 11) .................. 271
— of a preparation from the impure picrate from erepton on the uterus of the virgin guinea pig (Fig. 12) ........ 272
— of a chloroform extract from Witte’s peptone on the blood pressure of the cat (Fig. 13) .............. 274
— of a chloroform extract from Witte’s peptone on the uterus of the virgin guinea pig (Fig. 14) ........... 275
— of a hydrolytic product of albumin on the blood pressure of the cat (Fig. 15) .......................... 278
— of a chloroform extract of the hydrolytic products of casein on the blood pressure of the cat (Fig. 16) ........ 280
— of a chloroform extract used in figure 16 on the uterus of the virgin guinea pig (Fig. 17) .............. 281
— of a chloroform extract of the hydrolytic products of edestin on the blood pressure of the cat (Fig. 18) ........ 283
— of the chloroform extract used in figure 18 on the uterus of the virgin guinea pig (Fig. 19) ........ 284
— of Shoyu (Japanese sauce) on the blood pressure of the cat and rabbit (Fig. 20) .................. 286

Experiment 1. Dog, 20 kilo (Fig. 1) .............. 306
— 1. Dog, 8 kilo (Fig. 2) .................. 306
— 3. Dog, 18 kilo (Fig. 3) .................. 308
— 1. Dog, 20 kilo (Fig. 4) .................. 308
— 2. Dog, 8 kilo (Fig. 5) .................. 310
— 4. Dog, 20 kilo (Fig. 6) .................. 310
— 4. Dog, 20 kilo (Fig. 7) .................. 312
— 4. Dog, 20 kilo (Fig. 8) .................. 312

Section showing the normal relations of the spinal cord to the meninges after embedding (Fig. 1) .................. 342
— through fourth thoracic segment of a cat (Fig. 2) .............. 342
— through fourth lumbar segment of a cat (Fig. 3) .............. 342
— through fourth thoracic segment of a cat (Fig. 4) .............. 342
— through twelfth thoracic segment of a cat (Fig. 5) .............. 342

Enlargement of the dorsal edge of section shown in figure 3 (Fig. 6) .............. 342
— of the dorsal area of section shown in figure 5 (Fig. 7) .............. 342

Section through fourth lumbar segment of a cat (Fig. 8) .............. 342

Blood pressure tracing. Cat 293 (Fig. 1) .............. 366
ILLUSTRATIONS

Intestine tracing. Bloods from Cat 293 (Fig. 2) .................. 366
     tracings. Bloods from Cat 293 (Fig. 3) .................. 367
Uterus tracings. Bloods from Cat 293 (Fig. 4) ............. 368
Blood pressure tracing. Cat 295 (Fig. 5) .................. 370
     pressure tracing. Cat 290 (Fig. 6) .................. 370
Intestine tracings. Bloods from Cat 290 (Fig. 7) ............ 372
Blood pressure tracing. Cat 312 (Fig. 8) .............. 375
     tracings. Bloods from Cat 312 (Fig. 9) .............. 376
     tracings. Bloods from Cat 312 (Fig. 10) ........... 377
     tracings. Bloods from Cat 312 (Fig. 11) ........... 377
Blood pressure tracing. Cat 294 (Fig. 12) ............ 379
     pressure tracing. Cat 296 (Fig. 13) ............ 382
Intestine tracings. Bloods from Cat 296 (Fig. 14) ........ 383
     tracings. Bloods from Cat 296 (Fig. 15) ........ 383
     tracings. Bloods from Cat 296 (Fig. 16) ........ 384
     tracings. Bloods from Dog 297 (Fig. 17) ....... 389
Uterus tracings. Bloods from Dog 297 (Fig. 18) .............. 389
Intestine tracings. Bloods from Dog 297 (Fig. 19) ....... 390
     tracings. Bloods from Dog 297 (Fig. 20) .......... 391
Blood pressure tracing from Cat 313, after administration of strophanthin (Fig. 1) .................. 398
     pressure tracing from Cat 265, anesthetized with urethane (Fig. 2) .... 402
Waves produced in a practically quiescent spleen by the injection of a depressor dose of adrenalin, 0.2 cc., 1:100,000. Cat 2.5 kgm. (Fig. 1) .... 419
     produced in a quiescent spleen by the injection of a pressor dose of adrenalin, 0.5 cc., 1:10,000. Cat 2.5 kgm. (Fig. 2) .... 420
Dilatation of a perfused spleen from the injection of 5.0 cc., 1:100,000 adrenalin into the jugular vein. Dog 22 kgm. (Fig. 3) .... 422
     Constriction of a perfused spleen from the injection of 0.1 cc., 1:1,000,000 adrenalin into the perfused fluid. Dog 22 kgm. (Fig. 4) .... 422
     followed by dilatation, produced by the injection of adrenalin into the perfusion fluid entering a perfused spleen (Fig. 5) .... 423
     Dilatation of the spleen caused by the direct application of 1:10,000 adrenalin to the semilunar ganglion. Cat (Fig. 6) .... 424
     (Fig. 1) ........................................... 441
     (Fig. 2) ........................................... 442
Showing relative toxicity; fatal doses in milligrams per kilogram; and range of concentration of solutions for the several local anesthetics (Chart 1) .... 444
     (Fig. 3) ........................................... 445
     (Fig. 4) ........................................... 468
     (Fig. 5) ........................................... 469
     (Fig. 6) ........................................... 473
     (Fig. 7) ........................................... 477
     (Fig. 8) ........................................... 482
     (Fig. 9) ........................................... 482
     (Fig. 10) ........................................... 482
Photograph of plaster cast of skin-nodules after iodin treatment (Fig. 1) .... 496