

CONTENTS

NUMBER 1, APRIL, 1919

- I. On Dichloroethylsulfide (Mustard Gas). IV. The Mechanism of Absorption by the Skin. By Homer W. Smith, George H. A. Clowes and E. K. Marshall, Jr. 1
- 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

NUMBER 5, AUGUST, 1919

XVII. The Effect of Morphine upon the Alkali Reserve of the Blood of Dogs Gassed with Fatal Concentrations of Chlorine. By Axel M. Hjort and Fred. A. Taylor.....	407
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
— curve 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 horizontal 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 245 (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).....	189
Blood pressure tracing. Cat 283 (Fig. 2).....	193
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

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
Intestine 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).....	477
(Fig. 9).....	482
(Fig. 10).....	482
Photograph of plaster cast of skin-nodules after iodine treatment (Fig. 1)...	496