

CONTENTS

NUMBER 1, JULY, 1926

I. The Effect of the Acidity of the Solvent on the Stability of the Active Principle of the Infundibulum. By A. Stasiak.....	1
II. The Relation of Stimulus (Dose) to Effect. By A. T. Cameron and W. G. MacKersie.....	9
III. Further Studies of the Effect of Ephedrine on the Circulation. By K. K. Chen and Walter J. Meek.....	31
IV. A Comparative Study of Ephedrine, Tyramine and Epinephrine with Special Reference to the Circulation. By K. K. Chen and Walter J. Meek.....	59
V. The Effect of Atropin on the Pulse Rate. By Daniel Nicholson.....	77
VI. Studies in the Pharmacology of Bismuth Salts. I. A Method for Determination of Bismuth. Clifford S. Leonard.....	81
VII. Studies in the Pharmacology of Bismuth Salts. II. Toxicity and Urinary Elimination of Soluble Bismuth Salts. By Clifford S. Leonard..	89
VIII. Studies in the Pharmacology of Bismuth Salts. III. Toxicity and Urinary Elimination of Potassium Bismuth Tartrate. By Clifford S. Leonard and John L. O'Brien.....	109
IX. Studies in the Pharmacology of Bismuth Salts. IV. Toxicity and Urinary Elimination of Bismuth Oleate and Bismuth Metal. By Clifford S. Leonard.....	121
X. Lymph Alterations Following Sodium Chloride and Iodide Injections. By W. F. Petersen and T. P. Hughes.....	131
XI. A Study of the Toxic Effects of Certain Gold Compounds, as Indicated by the Blood Chemistry and Pathologic Changes in the Organs. By Herman Brown, Eli R. Saleeby and Jay F. Schamberg.....	141

NUMBER 2, AUGUST, 1926

XII. The Effects of Epinephrine on the Response of the Frog Heart to Stimulation of the Accelerator Nerve. By O. W. Barlow and Torald Sollmann.....	157
XIII. The Effect of Epinephrine and Prolonged Accelerator Stimulation on the Response of the Frog Heart to Stimulation of the Cardio-Inhibitory Nerve. By Torald Sollmann and O. W. Barlow.....	159
XIV. A Study of the Blood Chemistry and the Histo-Pathology of the Kidneys after Experimental Bismuth Injections. By Herman Brown, Eli R. Saleeby and Jay F. Schamberg.....	165
XV. The Effects Produced on the Secretion of the Succus Entericus by Liver Injury and Pancreatectomy. By W. Koskowski and P. Stradin..	171
XVI. The Anti-Diuretic Action of Pituitary. By Andrew McFarlane.....	177

XVII. Studies on Vomiting. By Harry Gold and Robert A. Hatcher.....	209
XVIII. The Effect of Cocaine on the Iris Compared with its Effect on Certain Other Structures Containing Smooth Muscle. By G. H. Miller.....	219
XIX. On the Toxicity of Arsine-Tri-1-Piperidinium Chloride. By Clifford S. Leonard.....	233
XX. Effect of Morphine and Some Other Opium Alkaloids on the Muscular Activity of the Alimentary Canal. II. Influence of Continued Ad- ministration of Morphine and of Withdrawal on the Contractions of Small Intestines of Dogs. By G. H. Miller and O. H. Plant.....	241
XXI. The Comparative Physiological Action of Some Derivatives of Guani- dine. By Gordon A. Alles.....	251
XXII. Effects of Trivalent and Pentavalent Arsenic on Heart Pulsations of the Silkworm. F. L. Campbell.....	277
XXIII. The Pharmacology of Denervated Mammalian Muscle. II. Some Phenomena of Antagonism, and the Formation of Lactic Acid in Chemical Contracture. By H. S. Gasser and H. H. Dale.....	287
NUMBER 3, SEPTEMBER, 1926	
XXIV. The Toxicological Properties of Certain Thiocarbamine Com- pounds. By J. V. Supniewski.....	317
XXV. Temperature and Epinephrine on the Perfused Frog Heart. Relation of Epinephrine Response to Temperature and Rhythmic Vigor. By O. W. Barlow and Torald Sollmann.....	325
XXVI. Some Observations on the Trypanocidal Action of Arsenicals. By F. M. Durham, J. Marchal and Harold King.....	341
XXVII. So-Called Habituation to "Arsenic." By Erich W. Schwartz and James C. Munch.....	351
XXVIII. The Action of Morphin in Slowing the Pulse. By F. D. McCrea and Walter J. Meek.....	361
XXIX. Some Effects of Quaternary Ammonium Compounds on the Auto- nomic Nervous System. By Reid Hunt.....	367
XXX. Labile Sulphur in the Blood. By David Campbell and E. M. K. Geiling.....	389
XXXI. The Stability of Hexylresorcinol in Pharmaceutical Preparation. By William A. Feirer and Veader Leonard.....	395
XXXII. Blood Fibrin and Levulose Tolerance in Acute and Chronic Carbon Tetrachloride Intoxication. By Paul D. Lamson and Raymond Wing..	399
XXXIII. On the Effects of Acetaldehyde, Ether Peroxide, Ethyl Mercaptan, Ethyl Sulphide, and Several Ketones—Di-methyl, Ethyl Methyl and Di-ethyl—When Added to Anaesthetic Ether. By Wesley Bourne.....	409
XXXIV. Thrombocyte and Erythrocyte Changes Produced by Agents Causing Anaphylactoid Reactions. By Floyd de Eds and Vaughn Mitchell.....	433
XXXV. Thrombocyte and Erythrocyte Changes During Anaphylactic Shock in Pigeons. By Floyd de Eds.....	451

ILLUSTRATIONS

Active principle of infundibulum (Fig. 1).....	3
— principle of infundibulum (Fig. 2).....	4
— principle of infundibulum (Fig. 3).....	5
— principle of infundibulum (Fig. 4).....	6
Mechanical systems (Fig. 2).....	15
Relation of stimulus (dose) to effect (Fig. 3).....	18
— of stimulus (dose) to effect (Fig. 4).....	20
Effect of indaconitine on body temperature (Fig. 5).....	24
Relation of stimulus (dose) to effect (Fig. 6).....	26
The effect of repeated injections of ephedrine intravenously on blood pressure (Fig. 1).....	34
— summative effect of repeated injections, given close together, or very small doses of ephedrine on blood pressure, followed by larger dose at end (Fig. 2).....	34
— effect of ephedrine on splenic and intestinal volumes and blood pressure (Fig. 3).....	36
Perfusion of terrapin's heart with ephedrine in Ringer's fluid (Fig. 4).....	39
Arrangement of Langendorff's method of perfusion with isolated rabbit's heart (Fig. 5).....	40
Aortic cannula for isolated rabbit's heart in Langendorff's method of perfusion (Fig. 6).....	41
Stimulation of rabbit's heart by ephedrine sulphate 1:100,000 in Locke's solution with Langendorff's method of perfusion (Fig. 7).....	43
Depression of rabbit's heart by ephedrine sulphate 1:10,000 in Locke's solution with Langendorff's method of perfusion (Fig. 8).....	44
— and disturbance in rhythm of rabbit's heart by ephedrine sulphate 1:2,000 in Locke's solution with Langendorff's method of perfusion (Fig. 9).....	45
The changes of electrocardiogram in a non-anesthetized dog by a depressing dose of ephedrine (Fig. 10).....	50
— changes of electrocardiogram in a decerebrated dog by a depressing dose of ephedrine (Fig. 11).....	52
— effect of ephedrine on the cardiac output during the rise of blood pressure (Fig. 12).....	53
Comparison of ephedrine and epinephrine in raising blood pressure (Fig. 1).....	61
Synergism of ephedrine and epinephrine in raising blood pressure (Fig. 2).....	62
Comparison of tyramine and ephedrine in raising blood pressure (Fig. 3).....	63
The effect of repeated injections of tyramine on blood pressure from the same experiment as shown in figure 3 (Fig. 4).....	63
Comparison of efficiency in raising blood pressure by tyramine and ephedrine, when given by mouth, in a man (Fig. 5).....	66

The changes of electrocardiogram in an anesthetized dog by a large dose of tyramine (Fig. 6).....	70
Liver from RS6 injected with gold and sodium chloride (Fig. 1).....	146
— from R44, injected with gold sodium thiosulphate showing hemorrhagic areas due to the breaking of the capillary walls (Fig. 2).....	150
Influence of epinephrine and of stimulation of the accelerator nerves on the threshold of the inhibitory vagus response (Fig. 1).....	161
A, normal liver of the dog; B, after injections of toluyldiamine (fat stain); acute fatty degeneration of the liver (Fig. 1).....	173
t, injection of toluyldiamine, P, pancreatotomy (Fig. 2).....	174
Dog (bitch), 9.5 kgm. (Chart I).....	180
— (bitch), 9.5 kgm. (Chart II).....	180
Rabbit (male), 2.4 kgm. (Chart III).....	181
Dog (bitch), 9.4 kgm. (Chart IV).....	181
— (bitch), 9.4 kgm. (Chart V).....	186
— (bitch), 9.4 kgm. (Chart VI).....	186
— (bitch), 9.4 kgm. (Chart VII).....	187
— (bitch), 6.4 kgm. (Chart VIII).....	187
A, intravenous administration of saline solution; B, urine in cubic centimeters per ten minutes (Chart IX).....	195
Rabbit (male) 2.3 kgm. Anaesthetic—urethane 1.2 grams per kilogram subcutaneously (Chart X).....	195
U, drops of urine each minute from left ureter, B, drops of urine each minute from bladder (Chart XI).....	199
Upstroke represents expiration, downstroke inspiration (Fig. 1).....	214
— represents expiration, downstroke inspiration (Fig. 2).....	214
— represents expiration, downstroke inspiration (Fig. 3).....	215
Graphs of pupillary response in rabbit after degeneration of sympathetic on the left side (Fig. 1).....	221
— showing pupillary response in an animal operated on both sides (Fig. 2).....	222
Isolated circular muscle from the iris of a steer (Fig. 3).....	224
— segments of rabbit uterus (non-pregnant) (Fig. 4).....	226
— segments of rabbit uterus (pregnant) (Fig. 5).....	227
— segments of cat uterus (non-pregnant) (Fig. 6).....	228
— segment of duodenum of rabbit (Fig. 7).....	229
Experiment I. Daily administration of ascending doses of morphine for 71 days (Fig. 1).....	243
— I. Intestinal contractions during withdrawal of morphine, after administration of daily ascending doses for 71 days (Fig. 2).....	245
— II. Daily repetition of the same small dose (0.1 mgm. per kgm.) of morphine sulphate for 42 days (Fig. 3).....	247
Physiological action of guanidine (Fig. 1).....	256
— action of guanidine (Fig. 2).....	257
— action of guanidine (Fig. 4).....	261
— action of guanidine (Fig. 9).....	266
The effect of heart rate of handling (solid line) and of distilled water injection (dotted line), and the succeeding effect of 0.02 mgm. As ^v per gram injected into the same individuals (Fig. 1).....	279

The comparative effect of heart rate of As^{III} and As^V , 0.02 mgm. per gram by injection (Fig. 2).....	281
— comparative effect on heart rate of As^{III} and As^V , 0.05 mgm. per gram by mouth (Fig. 3).....	281
— relative toxicity of As^{III} and As^V by injection into fifth instar silk-worms (Fig. 4).....	283
Effect of adrenaline on response of denervated gastrocnemius (cat) to acetylcholine (Fig. 1).....	291
— of adrenaline on nicotine-contraction of normal fowl's gastrocnemius (Fig. 2).....	293
Same experiment as figure 1. Effect of adrenaline, after 8 mgm. of ergotamine, on action of acetylcholine (Fig. 3).....	295
Effect of acetylcholine on response of denervated muscle to maximal tetanization (Fig. 4).....	298
— of tetanization of denervated muscle to fatigue, on its response to acetylcholine (Fig. 5).....	299
<i>a</i> , denervated fowl's gastrocnemius, response to acetylcholine and maximal tetanization. <i>b</i> , normal gastrocnemius of same fowl; response to same stimuli (Fig. 6).....	301
Rectus abdominis of normal frog, suspended in Ringer's solution. Effects of acetylcholine and tetanus. Reimmersion, after washing, in same acetylcholine dilution (Fig. 7).....	302
The respiration and the blood pressure of an etherized rabbit injected intravenously with 50 and 100 mgm. per kilogram of dithiopiperazine (Fig. 1) ..	319
— cardiographic curve of a rat injected intravenously with 50 and 150 mgm. per kilogram of dithiopiperazine (Fig. 2).....	320
— cardiographic curve of a perfused heart of the frog by the solution of Clark with thiopuric acid (Fig. 3).....	321
Rate of unpoisoned perfused frog heart, in relation to temperature (Fig. 1) ..	328
— of unpoisoned frog hearts in relation to temperature (Fig. 2).....	329
Amplitude of unpoisoned perfused frog heart in relation to temperature (Fig. 3).....	330
Effect of epinephrine and of accelerator stimulation on the heart rate, and its relation to temperature (Fig. 4).....	331
Comparison of rate-increase by epinephrine 1:10 ⁷ and by accelerator nerve stimulation, in relation to temperature (Fig. 5).....	332
Relation of amplitude response to temperature (Fig. 6).....	334
Effect of the initial heart rate, at a given temperature, on the epinephrine response (Fig. 7).....	335
Fibrin in milligrams per 100 cc. plasma is plotted in hours after giving carbon tetrachloride by mouth as indicated (Fig. 1).....	402
Two sets of curves giving blood sugar after administering 3 grams of levulose per kilo by mouth to dogs (Fig. 2).....	403
Impurities in anaesthetic ether (Plate I).....	410
— in anaesthetic ether (Plate II).....	411
— in anaesthetic ether (Plate III).....	414
— in anaesthetic ether (Plate IV).....	416
— in anaesthetic ether (Plate V).....	417

Impurities in anaesthetic ether (Plate VI).....	418
— in anaesthetic ether (Plate VII).....	420
— in anaesthetic ether (Plate VIII).....	423
— in anaesthetic ether (Plate IX).....	424
— in anaesthetic ether (Plate X).....	425
— in anaesthetic ether (Plate XI).....	426
— in anaesthetic ether (Plate XII).....	426
— in anaesthetic ether (Plate XIII).....	427
— in anaesthetic ether (Plate XIV).....	428
— in anaesthetic ether (Plate XV).....	429
— in anaesthetic ether (Plate XVI).....	430
— in anaesthetic ether (Plate XVII).....	431
Control venous blood before injection in pigeon 3. A typical smear of normal pigeon blood. 4 mm. objective (Fig. 1).....	443
Clumping and increased number of thrombocytes (platelets) in venous blood of pigeon 3 after intravenous injection of peptone (0.0006 gram per gram body weight). 4 mm. objective (Fig. 2).....	444
Typical injuries to erythrocytes after intravenous injection of barium sul- phate (0.0033 mgm. per gram body weight) in pigeon 64. 1.8 mm. objec- tive (Fig. 3).....	445