

CONTENTS

NUMBER 1, SEPTEMBER, 1932

I. Local, Irritant and Toxic Actions of Sodium Iodobismuthite and Iodobismittol. By P. J. Hanzlik, M. A. Seidenfeld and C. C. Johnson	1
II. The Influence of Cocainization and Ergotaminization on the Pressor Responses to Musculotropic Agents. By M. L. Tainter.	27
III. The Effect of Metaphen on the Kidney. By P. J. Crittenden.	39
IV. Hormones in Cancer. V. The Effect of Glandular Extirpation upon the Growth of Transplantable Tumors. By Fritz Bischoff and L. C. Maxwell.	51
V. Hormones in Cancer. VI. The Effect of Glandular Extirpation upon Resistance to Tumor Tissue Grafts. By L. C. Maxwell and Fritz Bischoff.	59
VI. The Pharmacological Action of "Mussel Poison." By M. Prinzmetal, H. Sommer and C. D. Leake	63
VII. The Action of Tyramine and Ephedrine. By J. H. Burn.	75
VIII. Studies on Vomiting. By Robert A. Hatcher and Bernard S. French.	97
IX. Chronic Nicotinism in Young Rats and Rabbits. Effect on Growth and Estrus. By Allen Behrend and C. H. Thienes.	113
X. The Use of Sodium Amytal in the Production of Anesthesia in the Rat. By J. S. Nicholas and D. H. Barron	125

NUMBER 2, OCTOBER, 1932

XI. The Pre-anesthetic Value of Scopolamine and Mixtures of Scopolamine and Morphine in Relation to Nitrous Oxide Anesthesia in the Rat. By O. W. Barlow.	131
XII. The Premedication Values of Morphine, Codeine, Papaverine, Narcotine and Pantopon in Relation to Nitrous Oxide Anesthesia. By O. W. Barlow and M. F. Stormont.	141
XIII. On the Action of Certain Derivatives of Choline. By Andre Simonart.	157
XIV. The Effect of Repeated Doses of Cocaine on the Dog. By Ardrey W. Downs and Nathan B. Eddy.	195
XV. The Effect of Repeated Doses of Cocaine on the Rat. By Ardrey W. Downs and Nathan B. Eddy.	199
XVI. Studies of Chronic Morphine Poisoning in Dogs. IV. Excretion of Morphine in Tolerant and Non-tolerant Animals. By I. H. Pierce and O. H. Plant.	201
XVII. On the Biological Assay of Digitalis and Strophanthus. By C. W. Chapman and C. A. Morrell.	229

NUMBER 3, NOVEMBER, 1932

XVIII. Observations on the Pharmacology of Mitragynine. By Khem Singh Grewal.	251
XIX. The Problem of Intestinal Antisepsis—Experimental Observations on Mice. By J. Gibson Graham.	273

XX. A Method for the Determination of Small Amounts of Parathyroid Hormone. By Bengt Hamilton and Charles Schwartz.....	285
XXI. The Effects of Combinations of KI with Acid Anterior Pituitary Extracts, KI with Armour's Anterior Pituitary, and KI with Thyroid Substance upon Basal Metabolism in Guinea Pigs. By Walter J. Siebert and Eric W. Thurston.....	293
XXII. The Action of Physostigmine on Different Regions of the Heart Tested on Isolated Strips from <i>Chrysemys belli</i> . By Charles W. Greene and Karl E. Maneval.....	303
XXIII. The Effect of Caffeine on the Melanophores of <i>Fundulus</i> . By Floyd J. Brinley.....	325
XXIV. Vasodilator Action of Sodium Ethyl-(1-Methyl-butyl)-Barbiturate (Nembutal "844"), as Measured by Thermic Changes. By H. G. Richter and A. W. Oughterson.....	335
XXV. Therapeutic Results with Bismuth Subnitrate in Hypertensive Arterial Disease. By Edward J. Stieghtz.....	343
XXVI. The Action of Quinidine on the Heart in the Normal Unanesthetized Dog. By Harry Gold and Walter Modell.....	357

NUMBER 4, DECEMBER, 1932

XXVII. The Pharmacological Action of Eseridine. By Reginald St. A. Heathcote.....	375
XXVIII. Concerning the Relative Pre-anesthetic Values of the Sodium Salts of Iso-amyl-ethyl-barbituric Acid (Amytal), Pentobarbital, Phenobarbital and Barbital. By Edward E. Swanson.....	387
XXIX. Studies on the Synergism and Antagonism of Drugs. I. The Non-parasympathetic Antagonism between Atropine and the Miotic Alkaloids. By Theodore Koppányi.....	395
XXX. Vagus Control of Pancreatic Function. Experimental Insulin Resistance. By Ephraim B. Boldyreff and Jean F. Stewart.....	407
XXXI. A Study of Gastric Secretion Caused by Insulin. By Ephraim B. Boldyreff and Jean F. Stewart.....	419
XXXII. The Use of Basic Sodium Phosphate as an Antidote for Hypercalcemia in Dogs. By Irvine H. Page and Jasper P. Scott.....	431
XXXIII. The Response of the Isolated Intestine to Cocaine and Novocaine at Different pH Levels. By William Salant and William M. Parkins.....	435
XXXIV. The Cardiovascular and Metabolic Reactions of Man to the Intramuscular Injection of Posterior Pituitary Liquid (Pituitrin), Pitressin and Pitocin. By Arthur Grollman and E. M. K. Geiling.....	447
XXXV. On the Action of Various Uric Acid Eliminants upon Experimental Uric Acid Storage in the Kidney. By Hermann O. Schroeder.....	461
XXXVI. A Method for Studying Variations in Coronary Inflow during a Series of Cardiac Cycles, or for Determining Inflow Rates Generally. By R. L. Stehle.....	471
XXXVII. The Influence of the Heart Beat upon the Flow of Blood into the Coronary Arteries. By R. L. Stehle and K. I. Melville.....	477
XXXVIII. Index.....	485

ILLUSTRATIONS

Toxicity of iodobismutol in white rats and rabbits, according to fatal dosage of sodium iodobismuthite (Fig. 1).....	3
Microscopic tissue changes after injection of iodobismutol intramuscularly in a rabbit (Fig. 2).....	15
Influence of cocaine, ergotamine and repeated injection on the pressor responses to barium chloride and epinephrine in urethanized cats (Fig. 1).....	30
— of cocaine and ergotamine on the pressor responses to strophanthus and epinephrine in urethanized cats (Fig. 2).....	32
— of cocaine and ergotamine on the pressor responses to pituitary extract and to epinephrine in urethanized cats (Fig. 3).....	33
— of cocaine, ergotamine and repeated injections upon the pressor response to pitressin and to epinephrine in urethanized cats (Fig. 4).....	34
Record of the pressure changes in the cannula inserted in the abdominal aorta of a dog through which the hind limbs are perfused with blood (Fig. 1) ..	78
Action of tyramine and ephedrine (Fig. 2).....	80
— of tyramine and ephedrine (Fig. 3).....	82
— of tyramine and ephedrine (Fig. 4).....	82
Record of the blood pressure of a spinal cat together with records of the volume of each fore-limb (Fig. 5).....	85
Action of tyramine and ephedrine (Fig. 6).....	86
— of tyramine and ephedrine (Fig. 7).....	87
Showing the varying response which the vessels of the hind leg may show to the injection of ephedrine into the aortic cannula through which the hind legs are perfused (Fig. 8).....	89
Growth chart for male rats (Fig. 1).....	116
— chart for female rats (Fig. 2).....	117
Nicotine-injected male rat (Fig. 3).....	119
Control male rat (Fig. 4).....	120
Production of anesthesia in rat (Fig. 1).....	127
Action of certain derivatives of choline (Fig. 1).....	160
— of certain derivatives of choline (Fig. 2).....	161
— of certain derivatives of choline (Fig. 3).....	161
— of certain derivatives of choline (Fig. 4).....	162
— of certain derivatives of choline (Fig. 5).....	164
— of certain derivatives of choline (Fig. 6).....	164
— of certain derivatives of choline (Fig. 7).....	165
— of certain derivatives of choline (Fig. 8).....	165
— of certain derivatives of choline (Fig. 9).....	166
— of certain derivatives of choline (Fig. 10).....	167
— of certain derivatives of choline (Fig. 11).....	169
— of certain derivatives of choline (Fig. 12).....	169

Action of certain derivatives of choline (Fig. 13).....	171
— of certain derivatives of choline (Fig. 14).....	173
— of certain derivatives of choline (Fig. 15).....	174
— of certain derivatives of choline (Fig. 16).....	175
— of certain derivatives of choline (Fig. 17).....	175
— of certain derivatives of choline (Fig. 18).....	176
— of certain derivatives of choline (Fig. 19).....	176
— of certain derivatives of choline (Fig. 20).....	177
— of certain derivatives of choline (Fig. 21).....	177
— of certain derivatives of choline (Fig. 22).....	178
— of certain derivatives of choline (Fig. 23).....	180
— of certain derivatives of choline (Fig. 24).....	181
— of certain derivatives of choline (Fig. 25).....	181
— of certain derivatives of choline (Fig. 26).....	181
— of certain derivatives of choline (Fig. 27).....	182
— of certain derivatives of choline (Fig. 28).....	183
— of certain derivatives of choline (Fig. 29).....	187
Effect of repeated doses of cocaine on dog (Fig. 1).....	196
Assay of digitalis and strophanthus (Fig. 1).....	230
Showing the effect of quinine hydrochloride 0.05 per cent and mitragynine fumarate 0.05 per cent on oxygen uptake on $\frac{1}{4}$ gram of fresh liver (Fig. 1).....	254
— the effect of quinine hydrochloride 0.05 per cent and mitragynine fumarate 0.05 per cent on the oxygen uptake of $\frac{1}{2}$ gram of fresh liver (Fig. 2).....	254
Effect of quinine hydrochloride 0.05 per cent on indophenol oxidase of rabbit's liver (Fig. 3).....	255
— of mitragynine fumarate 0.05 per cent on indophenol oxidase of rabbit's liver (Fig. 4).....	255
Showing the effect of mitragynine fumarate in dilution of 1:100,000 on rabbit's isolated intestine (Fig. 5).....	257
Cat; pithed; blood pressure; intestinal movements (balloon method). Showing the effect of 10 mgm. of mitragynine and 0.5 mgm. of atropine on movements of the intestine (Fig. 6).....	257
Contraction curves of hyoglossal muscle, stimulated by break shock. Showing the effect of dropping 1:1000 solution of mitragynine fumarate (Fig. 7).....	258
— curves of two gastrocnemii muscles from the same frog (Fig. 8).....	259
Fatigue curve of two sartorius muscles from the same frog (Fig. 9).....	259
Record of contraction of the frog's heart perfused through the hepatic vein with $\frac{1}{2}$ solution of mitragynine fumarate 1:50,000 in Ringer solution (Fig. 10).....	260
Cat, urethane, blood pressure and respiration. Showing the effect of injecting 2.5 mgm. of mitragynine fumarate (Fig. 11).....	261
—, avertin, cardiometer and blood pressure. Showing the effect of mitragynine fumarate (Fig. 12).....	262
—, A. C. E., urethane. Tracing of auricle (upper) and ventricle (lower) and blood pressure. Showing the effect of injecting 5 mgm. of mitragynine fumarate (Fig. 13).....	262
—, A. C. E., urethane. Right auricular pressure and blood pressure. Showing the effect of injecting 2.5 mgm. of mitragynine fumarate (Fig. 14).....	263

Cat, A. C. E., urethane. Pulmonary artery pressure and blood pressure. Showing the effect of injecting 5 mgm. of mitragynine fumarate (Fig. 15).	263
—, A. C. E., urethane. Lung volume and blood pressure. Showing the effect of injecting 5 mgm. of mitragynine fumarate (Fig. 16).	264
—, urethane. Limb volume, intestinal volume and blood pressure. Showing the effect of injecting 2.5 mgm. of mitragynine fumarate (Fig. 17).	264
—, A. C. E., chloralose. Respiration and blood pressure; vagi cut. Showing the effect on respiration of stimulation of central end of right vagus (Fig. 18).	267
Rabbit, ether urethane. Respiration and blood pressure; both vagi cut. Showing the effect of stimulation of the peripheral end of right vagus by a tetanizing current <i>A</i> with the secondary coil at 26, 28, 30 cm. control and <i>B</i> after 5 mgm. of mitragynine coil at 30, 32, 35, 37 and 39 cm. (Fig. 19).	267
Showing the effect on the serum calcium of repeated administrations of calcium chloride by mouth on the controls and on the rabbits given parathormone at the beginning of the experiment (Fig. 1).	288
Basal metabolism in guinea pigs (Fig. 1).	296
Physostigmine 0.001 per cent on the automatically contracting isolated cardiac strips of the turtle, <i>Chrysemys belli</i> (Fig. 1).	308
Action of physostigmine on heart (Fig. 2).	309
Reaction of normal cardiac strips to atropine (Fig. 3).	314
Action of physostigmine on heart (Fig. 4).	315
— of atropine sulphate, 0.002 per cent (Fig. 5).	316
— of physostigmine on heart (Fig. 6).	317
Thermic responses to injections of nembutal counteracting peripheral vasoconstriction (Fig. 1).	337
— response to administration of nembutal subsequent to fall of temperature following ligation of right and left femoral arteries (Fig. 2).	337
Same experiment as figure 2. Repetition of administration of nembutal thirty-one hours after ligation of right and left femoral arteries (Fig. 3).	338
Ligation of right femoral artery and thermic response after administration of nembutal (Fig. 4).	338
Bismuth subnitrate in arterial disease (Fig. 1).	348
— subnitrate in arterial disease (Fig. 2).	349
— subnitrate in arterial disease (Fig. 3).	350
— subnitrate in arterial disease (Fig. 4).	351
Selected tracings from experiment T-1 (Fig. 1).	365
Toad heart perfused with eseridine 1:1000 (Fig. 1).	378
Rabbit heart, perfused with eseridine 1:10,000 and atropine 1:100,000 (Fig. 2).	379
Blood pressure and plethysmograph of gut volume of dog (Fig. 3).	382
— pressure and lung volume of dog (Fig. 4).	383
Comparison of pre-medication values of sodium amytal and sodium pentobarbital in cats (Fig. 1).	392
Vagotonic nature of insulin hypoglycemia (Dog N 150) (Graph 1).	414
Demonstrating the effectiveness of a small dose of commercial insulin and the general type of secretion produced (Fig. 1).	421
Representing the gastric response to crystalline insulin both in quantity of secretion and total acidity (Fig. 2).	421

Showing the marked gastric response in man to the injection of crystalline insulin as demonstrated by the increase in acidity, and its suppression following the administration of atropine (Fig. 3)	422
Response of intestine to drugs at pH levels (Fig. 1)	437
Rabbit 2. Inhibition of the intestine by cocaine in acid and in alkaline Locke (Fig. 2)	440
Rat 3. The unequal effect of the same concentrations of cocaine in acid and alkaline Locke solutions (Fig. 3)	442
The effect of an intramuscular injection of 0.4 cc. of pitressin into a normal male adult (Fig. 1)	457
Uric acid storage in kidney (Fig. 1)	462
Variations in coronary inflow (Fig. 1)	472
— in coronary inflow (Fig. 2)	472
— in coronary inflow (Fig. 3)	475
Blood flow into coronary arteries (Fig. 1)	478
— flow into coronary arteries (Fig. 2)	481