

CONTENTS

NUMBER 1, SEPTEMBER, 1914

| | |
|---|-----|
| I. III. The Control of the Respiratory Exchange by Heating and Cooling the Temperature Centers. By Henry G. Barbour and Alexander L. Prince..... | 1 |
| II. The Action of Drugs on the Isolated Pulmonary Artery. By David I. Macht..... | 13 |
| III. The Influence of Temperature on the Action of Strophanthin on the Mammalian Heart. By John W. C. Gunn..... | 39 |
| IV. The Condition of the Sugar in the Blood. By C. L. v. Hess and Hugh McGuigan..... | 45 |
| V. A Note on the Pharmacological Action of Opium Alkaloids. By D. E. Jackson..... | 57 |
| VI. A Note on the Combined Action of Camphor and Lack of Oxygen upon the Isolated Mammalian Heart, with an Observation upon the Direct Action of Lack of Oxygen upon Blood Vessels. By A. N. Richards.... | 73 |
| VII. On the Convulsant Action of Acid Fuchsin in Cardiotomized Frogs after Removal of the Anterior Lymph Hearts. By Don R. Joseph.... | 83 |
| VIII. On the Influence of the Lymph Hearts upon the Action of Convulsant Drugs in Cardiotomized Frogs. II. By John J. Abel and B. B. Turner..... | 91 |
| IX. The Vascular Response of the Kidney in Acute Uranium Nephritis—the Influence of the Vascular Response on Diuresis. By William deB. MacNider..... | 123 |

NUMBER 2, NOVEMBER, 1914

| | |
|---|-----|
| X. The Action of Certain Esters and Ethers of Choline, and their Relation to Muscarine. By H. H. Dale..... | 147 |
| XI. Note on the Properties of Fungi Gathered in France. By William W. Ford and Nathaniel H. Brush..... | 191 |
| XII. Action of Amanita Phalloides and Other Amanitas upon the Frog's Heart. By William W. Ford and Nathaniel H. Brush..... | 195 |
| XIII. Further Observations on Fungi Including Species of Amanita, Inocybe, Volvaria, and Gyrophragmium. By William W. Ford..... | 205 |
| XIV. Contributions to the Physiology of the Stomach. XVI. The Action of the So-Called Stomachics or Bitters on the Hunger Mechanism. By A. J. Carlson, J. Van de Erve, J. H. Lewis and S. J. Orr..... | 209 |
| XV. Uric Acid Concentration of the Blood as Influenced by Atophan and Radium Emanation. By Morris S. Fine and Arthur F. Chace..... | 219 |
| XVI. The Physiological Action of the Oil and Seeds of Croton Elliotianus from British East Africa. By J. Theodore Cash and Walter J. Dilling. | 235 |

NUMBER 3, JANUARY, 1915

| | |
|--|-----|
| XVII. The Action of Strophanthin upon Suprarenal Secretion. By A. N. Richards and W. J. Wood..... | 283 |
| XVIII. The Action of Conessine and Holarrhenine, the Alkaloids of <i>Holarrena Congolensis</i> , and also of Oxyconessine. By J. H. Burn..... | 305 |
| XIX. Studies on the Vasomotor Centre. I. The Effects of the Nitrite Group. By J. D. Pilcher and Torald Sollmann | 323 |
| XX. Studies on the Vasomotor Centre. II. The Action of Strychnin. By J. D. Pilcher and Torald Sollmann..... | 331 |
| XXI. Studies on the Vasomotor Centre. III. The Action of Epinephrin. By J. D. Pilcher and Torald Sollmann..... | 339 |
| XXII. Studies on the Vasomotor Centre. IV. The Action of Camphor. By J. D. Pilcher and Torald Sollmann..... | 345 |
| XXIII. Studies on the Vasomotor Centre. V. The Action of Chloroform. By J. D. Pilcher and Torald Sollmann..... | 349 |
| XXIV. Studies on the Vasomotor Centre. VI. The Action of Cyanide. By J. D. Pilcher and Torald Sollmann..... | 361 |
| XXV. Studies on the Vasomotor Centre. VII. The Action of Aconite. By J. D. Pilcher and Torald Sollmann..... | 365 |
| XXVI. Studies on the Vasomotor Centre. VIII. The Action of Nicotin. By J. D. Pilcher and Torald Sollmann..... | 369 |
| XXVII. Studies on the Vasomotor Centre. IX. The Action of Spartein. By J. D. Pilcher and Torald Sollmann..... | 373 |
| XXVIII. Studies on the Vasomotor Centre. X. The Action of Phenol. By J. D. Pilcher and Torald Sollmann..... | 377 |
| XXIX. Studies on the Vasomotor Centre. XI. The Action of Cholin. By J. D. Pilcher and Torald Sollman..... | 381 |
| XXX. Studies on the Vasomotor Centre. XII. The Action of Ergot and Its Constituents, Ergotoxin, and Histamin. By J. D. Pilcher and Torald Sollmann..... | 385 |
| XXXI. Studies on the Vasomotor Centre. XIII. The Action of Hydrastis; Its Alkaloids, Hydrastin and Berberin; and the Derivatives Hydrastinin and Cotarnin. By J. D. Pilcher and Torald Sollmann..... | 391 |
| XXXII. Studies on the Vasomotor Centre. XIV. The Action of Digitalis and Strophanthus. By J. D. Pilcher and Torald Sollmann..... | 395 |
| XXXIII. Studies on the Vasomotor Centre. XV. The Action of Ether. By J. D. Pilcher and Torald Sollmann..... | 401 |
| XXXIV. Studies on the Vasomotor Centre. XVI. The Action of Pituitary Extract. By J. D. Pilcher and Torald Sollmann..... | 405 |
| XXXV. Studies on the Vasomotor Centre. XVII. The Action of Lactic Acid. By J. D. Pilcher and Torald Sollman..... | 409 |

NUMBER 4, MARCH, 1915

| | |
|---|-----|
| XXXVI. Note Concerning Helenin. By Paul Dudley Lamson..... | 413 |
| XXXVII. The Action of Certain Quarternary Ammonium Bases. By J. H. Burn and H. H. Dale..... | 417 |

CONTENTS

v

| | |
|---|-----|
| XXXVIII. Quantitative Observations on Antagonism. By Arthur R. Cushny..... | 439 |
| XXXIX. On the Pharmacology of the Respiratory Center. II. By Arthur R. Cushny and Charles C. Lieb..... | 451 |
| XL. The Effect of Homatropine on the Vagus. By Howell S. Zulick..... | 473 |
| XLI. Some Physiological Actions of the Homocholins and of Some of Their Derivatives. By Reid Hunt..... | 477 |
| XLII. The Influence of Drugs on the Human Sensory Threshold. By E. G. Martin, C. M. Grace, and J. H. McGuire..... | 527 |

NUMBER 5, MAY, 1915

| | |
|---|-----|
| XLIII. The Influence of Temperature and Concentration on the Quantitative Reaction of the Heart to Ouabain. By Torald Sollmann, W. L. Mendenhall and J. L. Stingel..... | 533 |
| XLIV. A Signal-Magnet Controller. By C. S. Chase and B. H. Schlomovitz..... | 561 |
| XLV. The Toxicity of Rattlesnake Serum and Bile with a Note on the Effect of Bile on the Toxicity of Venom. By William H. Welker and John Marshall..... | 563 |
| XLVI. Some Vasomotor Reactions of the Liver with Special Reference to the Presence of Vasomotor Nerves to the Portal Vein. By Charles W. Edmunds..... | 569 |
| XLVII. Demonstration by the Use of Arterial Rings of the Inhibitory Action of Certain Drugs on the Vaso-Constriction Produced by Epinephrin. By David I. Macht..... | 591 |
| XLVIII. Scientific Proceedings of the American Society for Pharmacology and Experimental Therapeutics. Edited by the Secretary..... | 595 |

ILLUSTRATIONS

| | |
|---|----|
| Effects of heating and cooling corpus striatum upon rectal temperature (Fig. 1)..... | 4 |
| — of cooling and heating corpus striatum (Fig. 2)..... | 5 |
| — of heating corpus striatum for the first ninety minutes after puncture (Fig. 3)..... | 7 |
| — of heating corpus striatum preceded and followed by control periods (Fig. 4)..... | 8 |
| — of heating corpus striatum (Fig. 5)..... | 9 |
| Heating and cooling when body temperature was influenced by outstretched posture (Fig. 6)..... | 11 |
| Action of epinephrin on pig's pulmonary artery (Fig. 1)..... | 17 |
| — of epinephrin on human pulmonary artery (Fig. 2)..... | 17 |
| — of epinephrin in the human pulmonary artery, 49 days after death (Fig. 3)..... | 18 |
| Human pulmonary artery (Fig. 4)..... | 20 |
| Action of nicotine (0.01%) on pig's pulmonary artery (Fig. 5)..... | 21 |
| — of digitoxin on pig's pulmonary artery (Fig. 6)..... | 22 |
| Showing the relaxation produced by quinine (1.200) on pig's pulmonary (Fig. 7)..... | 22 |
| Action of barium chloride on pig's pulmonary artery (Fig. 8). <i>See Errata</i> ... | 23 |
| — of sodium nitrite on the pig's pulmonary artery (Fig. 9). <i>See Errata</i> ... | 24 |
| — of nitroglycerine on pig's pulmonary artery (Fig. 10)..... | 25 |
| — of erythrol tetranitrate on pig's pulmonary artery (Fig. 11)..... | 26 |
| — of amyl nitrite on pig's pulmonary artery (Fig. 12)..... | 26 |
| Showing the relaxation produced by sodium nitrite on the carotid artery (Fig. 13)..... | 27 |
| — the relaxation produced by amyl nitrite on pig's carotid artery (Fig. 14)... | 28 |
| — relaxation of coronary of ox, produced by nitroglycerin (Fig. 15)..... | 28 |
| — relaxation of coronary of ox, produced by amyl nitrite (Fig. 16)..... | 29 |
| — action of yohimbrin hydrochloride on the coronary, the internal iliac, and the pulmonary arteries of the pig (Fig. 17)..... | 33 |
| Perfusion of rabbit's heart with 1 in 500,000 strophanthin at 30°C. (Fig. 1)... | 43 |
| — of rabbit's heart with 1 in 500,000 strophanthin at 40°C. (Fig. 2)..... | 43 |
| Dialyzing apparatus not requiring anticoagulants..... | 49 |
| Spinal dog (Fig. 1)..... | 61 |
| Shows bronchial contraction produced by morphine acetate (Fig. 2)..... | 63 |
| — the action of narcotine (Fig. 3)..... | 64 |
| Heroin causes extreme broncho constriction (Fig. 4)..... | 67 |
| Dionin causes marked broncho constriction (Fig. 5)..... | 68 |
| Peronine produced profound bronchial contraction (Fig. 6)..... | 69 |
| Action of camphor on isolated mammalian heart. Experiment 3 (Fig. 1)..... | 80 |
| — of camphor on isolated mammalian heart. Experiment 5 (Fig. 2)..... | 81 |

| | |
|--|-----|
| Perfusion of dog's hind leg (Fig. 3)..... | 82 |
| Showing the route taken by drugs or dyestuffs in passing from the anterior lymph hearts to the spinal cord and brain of cardiectomized frogs (Fig. 1) | 99 |
| Lymph hearts on action of convulsant drugs (Fig. 2)..... | 103 |
| Route taken by solutions of drugs and dyestuffs in their passage from the posterior lymph hearts of cardiectomized frogs to the calcareous saccules in the intervertebral foramina (Fig. 3)..... | 105 |
| Tracing from the Mürthle manometer, carotid blood pressure, kidney volume, signal magnet and time marker (Tracing 1, Experiment 3, Table 1)..... | 129 |
| The tracing is from the same animal as tracing 1 (Tracing 2)..... | 131 |
| Tracing shows the renal vessels to be responsive to caffeine (Tracing 3, Experiment 1, Table 2)..... | 133 |
| — shows that the renal vessels in the anuric animal are responsive to adrenalin (Tracing 4, Experiment 1, Table 2)..... | 135 |
| — is from an animal that remained diuretic following morphine-ether as an anesthetic (Tracing 5, Experiment 1, Table 3)..... | 136 |
| Following the decrease in kidney volume from adrenalin there is a transitory slacking in urine flow (Tracing 6, Experiment 1, Table 3)..... | 137 |
| The figure shows the absence of acute swelling of the epithelium (Fig. 1, Experiment 3, Table 1)..... | 139 |
| Kidney of an animal anuric following Gréhan's anesthetic (Fig. 2, Experiment 1, Table 2)..... | 140 |
| — of an animal which remained diuretic following morphine-ether (Fig. 3)..... | 141 |
| — of an animal nephritic from uranium nitrate (Fig. 4)..... | 142 |
| Remaining kidney of the same animal after the animal had been subjected to Gréhan's anesthetic for one hour (Fig. 5)..... | 143 |
| Cat: ether. Carotid blood-pressure (Fig. 1)..... | 150 |
| — brain destroyed (Fig. 2)..... | 151 |
| — ether. Plethysmograph records from intestine and limb (Fig. 3)..... | 152 |
| Drop-record from perfused rabbit's ear; time signal (Fig. 4)..... | 153 |
| Cat: brain destroyed. Artificial respiration (Fig. 5)..... | 154 |
| — ether. Carotid blood-pressure (Fig. 6)..... | 155 |
| — ether. Carotid blood-pressure (Fig. 7)..... | 156 |
| — brain destroyed (Fig. 8)..... | 158 |
| From same experiment (Fig. 9)..... | 159 |
| Cat: brain destroyed (Fig. 10)..... | 161 |
| Perfused heart of frog, recorded by suspension-lever (Fig. 11)..... | 163 |
| Cat: ether. Contractions of small intestine (Fig. 12)..... | 166 |
| Loop of rabbit's small intestine in 50 cc. Tyrode's solution (Fig. 13)..... | 167 |
| Similar to Figure 13 (Fig. 14)..... | 168 |
| Lower end of cat's oesophagus in 50 cc. Tyrode's solution (Fig. 15)..... | 170 |
| Uterine horn of virgin rat in 50 cc. Tyrode's solution (Fig. 16)..... | 171 |
| Cat: ether. Carotid blood-pressure (Fig. 17)..... | 181 |
| Action of <i>Amanita phalloides</i> upon frog's heart in perfusion apparatus (Chart I)..... | 198 |
| — of <i>Amanita spreata</i> , <i>Amanita junquillea</i> and <i>Amanita porphyria</i> (Chart II)..... | 198 |
| — of <i>Amanita muscaria</i> (Chart III)..... | 198 |
| — of <i>Amanita phalloides</i> upon frog's heart (Chart IV)..... | 200 |

| | |
|---|-----|
| Action of the ash of <i>Amanita muscaria</i> upon the frog's heart (Chart VI)..... | 200 |
| — of solutions of the salts found in <i>Amanita phalloides</i> upon the frog's heart (Chart V)..... | 202 |
| Record of the gastric hunger contractions of J. V. de E. (Fig. 1)..... | 212 |
| — of the gastric hunger contraction J. H. L. (Fig. 2). <i>See Errata</i> | 213 |
| — of the end of a period of gastric hunger contractions of A. J. C. (Fig. 3) .. | 214 |
| Records of the gastric hunger contractions of dogs (Fig. 4)..... | 215 |
| — of the gastric hunger contraction of dogs (Fig. 5.)..... | 216 |
| Seeds of <i>Croton Elliotianus</i> enlarged (Fig. 1)..... | 236 |
| Palatal haemorrhagic spots after <i>Croton Elliotianus</i> (Fig. 2)..... | 246 |
| Haemorrhagic spots chiefly in both gastrocnemii and in left extensor cruris (Fig. 3)..... | 247 |
| — spots in the oviducts after <i>Croton Elliotianus</i> (Fig. 4)..... | 248 |
| Duodenum of frog (Fig. 5)..... | 249 |
| Contractions of duodenum and colon after oil of <i>Croton Elliotianus</i> (Fig. 6) .. | 261 |
| Duodenum; upper colon; lower colon (Fig. 7)..... | 262 |
| Duodenal record (Fig. 8)..... | 263 |
| Duodenum; ileum (Fig. 9)..... | 265 |
| Registering sound in duodenum (Fig. 10)..... | 266 |
| Registration (duodenal) of active contractions (Fig. 11)..... | 268 |
| Isolated strip of cat's longitudinal muscle contracting in blood drawn from inferior vena cava above entrance of suprarenal veins. Experiment 12 (Fig. 1.)..... | 289 |
| Dog. Experiment 4A (Fig. 2)..... | 291 |
| — Experiment 4B (Fig. 3)..... | 291 |
| — Splanchnic nerves cut. Experiment 9 (Fig. 4)..... | 294 |
| — Spinal cord cut between fourth and fifth cervical nerves. Experiment 11 (Fig. 5)..... | 295 |
| Cat. Isolated strip of cat's longitudinal intestinal muscle contracting in arterial blood. Experiment 15 (Fig. 6)..... | 297 |
| — 2000 grams. Ether (Fig. 1)..... | 310 |
| — 2400 grams. Brain and spinal cord destroyed (Fig. 2)..... | 311 |
| Conditions as in Figure 2 (Fig. 3)..... | 311 |
| — as in Figure 2 (Fig. 4)..... | 312 |
| Cat, 1700 grams. Ether (Fig. 5)..... | 313 |
| Perfusion of rabbit heart with oxygenated Locke-Ringer solution (Fig. 6).... | 314 |
| — of rabbit heart with oxygenated Locke-Ringer solution (Fig. 7)..... | 315 |
| — of frog heart with conessine (Fig. 8)..... | 316 |
| Separate tracings from auricle and ventricle of frog heart seen in Fig. 8 (Fig. 9)..... | 317 |
| Cat, 2000 grams. Ether (Fig. 10)..... | 319 |
| Nitroglycerin on blood pressure and vasomotor centre (Fig. 1)..... | 325 |
| Strychnin—nonconvulsive doses by the vasomotor centre (Fig. 1)..... | 332 |
| Effect of convulsive doses of strychnin on the vasomotor centre (Fig. 2).... | 334 |
| Paralysis of vasomotor centre by strychnin (Fig. 3)..... | 337 |
| Epinephrin on the vasomotor centre—continuous injection (Fig. 1)..... | 340 |
| — on the vasomotor centre (Fig. 2)..... | 342 |
| Convulsive doses of camphor on the vasomotor centre (Fig. 1)..... | 346 |
| Depression of the vasomotor centre by chloroform (Fig. 1)..... | 352 |

| | |
|--|-----|
| Constrictor effect on the vasomotor centre of the administration of chloroform in high concentration (Fig. 2)..... | 354 |
| Chloroform on the vasomotor centre when the tone had been increased by asphyxia (Fig. 3)..... | 356 |
| The "Reversal" action (Bayliss) of chloroform on pressor stimuli (Fig. 4).... | 358 |
| Potassium cyanide on the vasomotor centre (Fig. 1)..... | 363 |
| Aconite on the vasomotor centre (Fig. 1)..... | 366 |
| Nicotin on the vasomotor centre (Fig. 1)..... | 371 |
| Sparteïn on the vasomotor centre (Fig. 1)..... | 375 |
| Phenol on the vasomotor centre (Fig. 1)..... | 379 |
| Cholin on the vasomotor centre and the blood pressure (Fig. 1)..... | 382 |
| Ergamin on vasomotor centre (Fig. 1)..... | 388 |
| Hydrastis on vasomotor centre (Fig. 1)..... | 392 |
| Fatal doses of strophanthus on blood pressure and vasomotor centre (Fig. 1) .. | 398 |
| Ether on the vasomotor centre and respiration (Fig. 1)..... | 403 |
| Lactic acid on the vasomotor centre (Fig. 1)..... | 410 |
| Cat. Ether. Artificial respiration (Fig. 1)..... | 420 |
| — Ether (Fig. 2)..... | 421 |
| Same as Figure 2 (Fig. 3)..... | 422 |
| — experiment as Figure 1. Cat now pithed (Fig. 4)..... | 423 |
| Completely pithed cat (Fig. 5)..... | 424 |
| Continuation of Figure 5 (Fig. 6)..... | 425 |
| Completely pithed cat (Fig. 7)..... | 426 |
| Loop of rabbit's small intestine (Fig. 8)..... | 430 |
| Horn of uterus of virgin guinea-pig (Fig. 9)..... | 431 |
| Cat. Ether. Record of bladder-volume and carotid blood-pressure (Fig. 10)..... | 432 |
| Pithed cat. Carotid blood-pressure (Fig. 11)..... | 434 |
| Same as Figure 11. (Fig. 12)..... | 435 |
| Pithed cat. Carotid blood-pressure (Fig. 13)..... | 436 |
| Chart of the secretion of saliva from Series 1 (Fig. 1)..... | 443 |
| — of the secretion of saliva under atropine and pilocarpine from Series 5 (Fig. 2)..... | 449 |
| Respiration in rabbit during the inhalation of 7 per cent CO ₂ (Fig. 1)..... | 453 |
| — in rabbit during the inhalation of a mixture of air and nitrogen (Fig. 2) .. | 462 |
| Effect of temperature on M. S. D. of ouabain (Curve 1)..... | 535 |
| Magnified average curve of M. S. D. of ouabain (Curve 2)..... | 536 |
| Influence of temperature at different concentrations (Fig. 3)..... | 542 |
| — of concentration at different temperatures (Fig. 4)..... | 551 |
| Signal-magnet controller. Side-view (Fig. 1)..... | 562 |
| — controller. Lower surface view (Fig. 2)..... | 562 |
| Metal hood adjustment for all glass syringe (Fig. 3)..... | 562 |
| Dog. Blood pressure (B. P.) and liver volume tracing (L. V.) (Fig. 1)..... | 575 |
| — Blood pressure (B. P.) (Fig. 2)..... | 576 |
| — Blood pressure (B. P.) (Fig. 3)..... | 578 |
| — Liver volume (L. V.) (Fig. 4)..... | 581 |
| — Inferior vena cava (C.) pressure (Fig. 5)..... | 582 |
| — Portal pressure (Fig. 6)..... | 589 |
| Action of epinephrin on pig's pulmonary artery (Fig. 1)..... | 592 |
| Pig's carotid (Fig. 2)..... | 593 |