

## CONTENTS

### NUMBER I, SEPTEMBER, 1912

I. The Pulmonary Action of Vanadium together with a Study of the Peripheral Reactions to the Metal. By D. E. Jackson.....	1
II. A study of the Action of the Heart in Anaphylactic Shock in the Dog. By Arthur B. Eisenbrey and Richard M. Pearce.....	21
III. On the Production of Experimental Cephalic Coma. By D. E. Jackson.....	33
IV. Studies in Absorption of Drugs from the Gastric Mucous Membrane: 1. Strychnine Nitrate. By A. H. Ryan.....	43
V. The Pulmonary Action of the Adrenal Glands. By D. E. Jackson.....	59
VI. A Method of Standardising Pituitary (Infundibular) Extracts. By H. H. Dale and P. P. Laidlaw.....	75

### NUMBER 2, NOVEMBER, 1912

VII. The Therapeutical Action of the Cresotinic Acids. By Ralph Stockman.	97
VIII. The Action of Hydroxy-Codeine. By J. R. C. Greenlees.....	109
IX. The Emetic Action of the Digitalis Bodies. By Robert A. Hatcher and Cary Eggleston.....	113
X. The Pharmacological Action of Coriamyrtin. By C. R. Marshall.....	135
XI. On the Destruction of Epinephrin and Constrictor Substances of Serum by Oxygenation in the Presence of Blood Vessel Walls. By Arthur L. Tatum.....	151
XII. Action of Quinine on the Leucocytes. By George B. Roth.....	157

### NUMBER 3, JANUARY, 1913

XIII. The Anaphylactic Reaction of Plain Muscle in the Guinea-Pig. By H. H. Dale.....	167
XIV. The Congenital Tolerance of the Rat to Strophanthus. By J. A. Gunn.....	225
XV. Mode of Union between the Amanita-Haemolysin and its Antihæmolysin. By William W. Ford and Ethel M. Rockwood.....	235
XVI. Note on the Amanita-Toxin. By William W. Ford and Edith Bronson.....	241
XVII. Note on the Action of Histamin upon Surviving Arteries. By Henry G. Barbour.....	245

## NUMBER 4, MARCH, 1913

XVIII. The Pharmacological Action of <i>Catha Edulis</i> and Its Alkaloids. By Ralph Stockman.....	251
XIX. The Chemical and Pharmacological Properties of Hederin, a Sapo- Glucoside Contained in the Leaves of Common Ivy ( <i>Hedera Helix</i> ) By Benjamin Moore. In Collaboration with H. V. Foster, Henrietta Han- ley, H. W. Jones, S. N. Wright and T. A. Webster.....	263
XX. Epinephrine. By Hugh McGuigan and H. T. Mostrom.....	277
XXI. The Peripheral Action of Certain Drugs with Special Reference to the Lungs. By D. E. Jackson.....	291
XXII. Further Observations on Fungi, Particularly <i>Clitocybe Sudorifica</i> Peck, <i>Pholiota Autumnalis</i> Peck, and <i>Inocybe Decipiens</i> Bresadola. By William W. Ford and Joseph L. Sherrick.....	321
XXIII. On the Resistance of Various Spirochaetes in Cultures to the Ac- tion of Chemical and Physical Agents. By J. Bronfenbrenner and H. Noguchi.....	333
XXIV. Scientific Proceedings of the American Society for Pharmacology and Experimental Therapeutics. Edited by the Secretary, Dr. John Auer.....	341

## NUMBER 5, MAY, 1913

XXV. On the Pharmacology of the Respiratory Centre. By Arthur R. Cushny.....	363
XXVI. The Factors Determining Tolerance of Glucosides of the Digi- talis Series. By A. J. Clark.....	399
XXVII. The Pharmacology of the Snake's Heart. By A. J. Clark.....	425
XXVIII. The Relation of Vascular Conditions to Pituitrin Diuresis. By R. G. Hoskins and John W. Means.....	435
XXIX. Saline Perfusion of the Respiratory Center in Frogs: the Effect of Calcium Chloride and Potassium Chloride. By D. R. Hooker.....	443

## NUMBER 6, JULY, 1913

XXX. The Absorption and Excretion of Ammonia by the Lungs. By Hugh McGuigan.....	453
XXXI. Some Examples of the Effect of Asymmetric Nitrogen Atoms on Physiological Activity. By P. P. Laidlaw.....	461
XXXII. On the Pharmacological Action of Helenin, the Active Principle of <i>Helenium Autumnale</i> . By Paul Dudley Lamson.....	471
XXXIII. A Study of the Action of Various Diuretics in Uranium Nephritis, with Special Reference to the Part Played by the Anesthetic in Deter- mining the Efficiency of the Diuretic. By William de B. MacNider.....	491
XXXIV. The Effect of Varying Tonicity on the Anaphylactic and Other Reactions of Plain Muscle. By H. H. Dale.....	517
XXXV. On the Influence of Phenylquinolin Carbonic Acid (Atophan) on the Uric Acid Elimination. By Otto Folin and Henry Lyman.....	539
XXXVI. The Action of So-Called Emmenagogue Oils on the Isolated Uter- ine Strip. By David I. Macht.....	547

## ILLUSTRATIONS

Left pulmonary blood-pressure, kidney volume, and carotid tracing from a dog (Fig. 1).....	5
Lung volume (upper lobe of right lung) and right carotid pressure tracings from a dog (Fig. 2).....	11
Lung volume and carotid blood-pressure tracings from a dog (Fig. 3).....	12
Lung volume and carotid pressure tracings from a dog (Fig. 4).....	14
Anaphylactic "shock" (Fig. 1).....	28
Anaphylactic "shock" (Fig. 2).....	29
Dog's urine (Fig. 3).....	30
Peptone solution (Fig. 4).....	31
Carotid blood-pressure tracing from a dog (Fig. 1).....	39
Lung volume and carotid blood-pressure tracings from a dog. Brain and medulla destroyed by chloroform (Fig. 1).....	61
Lung volume and carotid blood-pressure tracings from a dog. Brain and medulla destroyed by chloroform (Fig. 2).....	66
Lung volume and carotid tracings from a dog. Brain and medulla destroyed (Fig. 3).....	70
Lung volume and carotid tracings from a dog. Brain and medulla destroyed (Fig. 4).....	73
Diagrammatic section of constant temperature bath for isolated organs (Fig. 1).....	81
Kymograph with flat writing surface (Fig. 2).....	83
Records from the isolated uterus of the virgin guinea-pig on 250 cc. of Ringer's solution (Fig. 3).....	86
Three successive responses to 0.025 cc. of the same extract, overlapped for comparison (Fig. 4).....	87
Comparison of extract T with standard extract S (Fig. 5).....	88
The same extracts as in figure 5 compared with another (more highly sensitive) uterus (Fig. 6).....	89
The same extracts as in figures 5 and 6 compared on the blood-pressure of a pithed cat (Fig. 7).....	90
Comparison with the standard (S) of a nearly equivalent extract (X) (Fig. 8).....	91
Continuation of figure 8 (Fig. 9).....	92
Varying doses of the same extract. (Fig. 10).....	93
Man, 32. Acute rheumatism (Chart 1).....	103
Man, 23. Acute rheumatism (Chart 2).....	103
Man, 49. Acute rheumatism (Chart 3).....	104
Woman, 21. Sixth attack of rheumatism since nine years of age (Chart 4).....	104
Man, 24. Acute rheumatism (Chart 5).....	105
Man, 19. Acute rheumatism (Chart 6).....	105
Man, 20. Acute rheumatism (Chart 7).....	106

Man, 30. Acute rheumatism (Chart 8).....	106
Woman, 27. Erythema nodosum (Chart 9).....	107
Man, 21. Acute rheumatism (Chart 10).....	107
Man, 23. Acute rheumatism (Chart 11).....	108
Comparison of effect of strychnine and coriamyrtin on the respiration of a deeply anaesthetized animal (Fig. 1).....	145
Effect of coriamyrtin on hind limb of decerebrate cat with spinal cord di- vided (Fig. 2).....	148
Sensitisation: 1/540 diphtheria antitoxin (horse) + 1 test dose of toxin, fourteen days previously (Fig. 1).....	177
Sensitisation: 1/480 diphtheria antitoxin + 1 test dose, fourteen days (Fig. 2)	178
Sensitisation: 0.1 cc sheep serum, thirteen days (Fig. 3).....	179
Sensitisation: 0.1 cc. egg-white, twelve days (Fig. 4).....	180
Sensitisation: 1/300 cc. diphtheria antitoxin + 1 test dose toxin, fourteen days (Fig. 5).....	181
Sensitisation: 1/800 cc. diphtheria antitoxin + 1 test dose toxin, fourteen days (Fig. 6).....	182
Normal uterus. A. 1 cc. 15 per cent purified horse globulin. B. 1 cc. <i>fresh</i> guinea-pig serum (Fig. 7).....	183
Sensitisation: 1/200 cc. diphtheria antitoxin + 1 test dose toxin, fourteen days (Fig. 8).....	185
Segment of small intestine, 40 mm. long, from sensitised guinea-pig (Fig. 9)	187
Sensitisation: 1/15 cc. egg-white + 1/30 horse serum + 1/30 cc. sheep serum, nineteen days (Fig. 10).....	189
Guinea-pig immunised to horse serum (Fig. 11).....	191
Guinea-pig immunised to horse serum (Fig. 12).....	193
Same experiment as figure 12 (Fig. 13).....	194
Passive sensitisation. Serum from guinea-pigs immunised to horse serum (Fig. 14).....	196
Passive sensitisation with serum from guinea-pigs anaphylactic to horse serum (Fig. 15).....	198
Same experiment as in figure 15 (Fig. 16).....	199
Sensitisation: 1/450 cc. diphtheria antitoxin + 1 test dose of toxin, ten days (Fig. 17).....	200
Same experiment as figure 17 (Fig. 18).....	201
Sensitisation: 1/1300 cc. antitoxic globulin + 1 test dose toxin, fourteen days (Fig. 19).....	202
Continuation of experiment in figure 19 (Fig. 20).....	203
Sensitisation: 1/420 cc. diphtheria antitoxin + 1 test dose toxin, fourteen days (Fig. 21).....	203
Continuation of figure 21 (Fig. 22).....	204
Normal uterus. Bath volume 250 cc. (Fig. 23).....	205
Normal uterus. Bath volume 250 cc. (Fig. 24).....	206
Uteri from guinea-pigs sensitised with 0.1 of horse serum hypodermically, with varying incubation periods, as indicated (Fig. 25).....	209
Sensitisation: 1/400 cc. antitoxin (horse) + 1 test dose of toxin, fourteen days (Fig. 26).....	214

Isolated heart of rabbit (Fig. 1).....	229
Isolated heart of rat (Fig. 2).....	231
Neutralisation of haemolysin by antihaemolysin (Chart 1).....	237
Neutralisation of antihaemolysin by haemolysin (Chart 2).....	238
Rings of carotid (upper tracing) and coronary (lower tracing) arteries of ox suspended in same Ringer bath (Fig. 1).....	247
Ring of ox coronary (Fig. 2).....	249
Drawing of microscopic crystals of hederin (Fig. 1).....	267
Constricting action on peripheral vessels of pithed frog (Fig. 2).....	272
Rate of flow through peripheral vessel of frog (Fig. 3).....	273
Effects on arterial blood pressure of intravenous injection of hederin (Fig. 4)...	274
Effects of hederin in slowing heart-beat (Fig. 5).....	275
Showing effect of pressure on abdominal vessels before tying off adrenal glands (Tracing 1).....	280
Showing effect of pressure on abdominal vessels after tying off adrenal glands (Tracing 2).....	281
To show the influence of acid on the secondary depression of epinephrine (Tracing 3).....	289
Lung shield for the right lung (Fig. 1).....	292
Lung volume and blood-pressure tracings from a spinal dog (Fig. 2).....	297
Lung volume and blood pressure, spinal dog (Fig. 3).....	302
Lung volume and blood-pressure tracings from a spinal dog (Fig. 4).....	304
Lung volume and blood pressure, spinal dog (Fig. 5).....	313
Lung volume and blood pressure, spinal dog (Fig. 6).....	315
Action of amanita muscaria upon frog's heart (Chart 1).....	329
Action of clitocybe sudorifica upon frog's heart (Chart 2).....	330
Action of inocybe decipiens upon frogs' heart (Chart 3).....	331
Graphic representation of experiment 1 (Fig. 2).....	369
Chart of the frequency and depth of respiration under CO <sub>2</sub> (Fig. 3).....	371
Respiration under vagus stimulation at 25 and 30 cm. (Fig. 4).....	374
Respiration under stimulation of the superior laryngeal at 27 cm. (Fig. 5)...	376
Failure of the respiration under urethane (Fig. 6).....	385
Respiration under morphine (Fig. 7).....	386
Respiration tracing under large dose of chloral (Fig. 8).....	387
Apparatus for circulating a small quantity of fluid in an isolated frog's heart (Fig. 1).....	402
Action of strophanthin upon isolated snake's heart (Fig. 2).....	411
Effect of acid upon isolated snake's heart (Fig. 1).....	427
Effect of acid upon isolated frog's heart (Fig. 2).....	428
Action of strophanthin upon isolated snake's heart (Fig. 3).....	429
Action of barium upon isolated snake's heart (Fig. 4).....	430
Action of sapotoxin upon isolated snake's heart (Fig. 5).....	431
At a 0.3 cc. pituitrin injected intravenously ("repeat dose") (Fig. 1).....	438
At a 0.7 cc. pituitrin injected intravenously (Fig. 2).....	439
At a 1 cc. pituitrin injected subcutaneously (Fig. 3).....	440
The excitant effect of an increase of CaCl <sub>2</sub> (Fig. 1).....	447
The depressant effect of an increase of KCl (Fig. 2).....	447

The excitant effect of removal of $\text{CaCl}_2$ (Fig. 3).....	449
The depressant effect of removal of KCl (Fig. 4).....	449
The depression of respiratory rhythm in the absence of $\text{CaCl}_2$ and KCl (Fig. 5).....	450
Effect of 1 in 20,000 $\alpha$ tetrahydroberberine methochloride (Fig. 1).....	464
Effect of 1 in 20,000 $\beta$ tetrahydroberberine methochloride (Fig. 2).....	465
$\alpha$ and $\beta$ tetrahydroberberine methochlorides (Fig. 3).....	465
$\alpha$ and $\beta$ l-canadine methochlorides (Fig. 4).....	466
Diagram of apparatus and connections for obtaining single induced break shocks by means of clock and induction coil (Fig. 5).....	469
Suspended frog's heart. Engleman's method (Curve 1).....	480
Isolated rabbit's heart. Langendorff's method (Curve 2).....	481
Rabbit, 1950 grams. Respiration curve written by means of a Marey Tam- bour, connected with a cannula in one nostril of the rabbit (Curve 3).....	483
A later injection of helenin in the same experiment as in curve 3 (Curve 4).....	483
A. Average volume of each respiration; B. Number of respirations in each thirty seconds (Curve 5).....	484
Curves made by stimulation of a suspended gastrocnemius muscle of a frog (Curve 6).....	486
Diuretics in uranium nephritis (Plate 1).....	516
Uterus of virgin guinea-pig (both horns) (Fig. 1).....	520
Uterus of virgin guinea-pig (both horns) (Fig. 2).....	521
Uterus of virgin guinea-pig (Fig. 3).....	522
Same experiment as figure 3 (Fig. 4).....	523
Uterus of virgin guinea-pig (both horns) (Fig. 5).....	524
Horn of uterus of normal virgin guinea-pig (Fig. 6).....	526
Dose in each case 0.05 mgm. $\beta$ -Iminazolyethylamine (Fig. 7).....	527
Dose in each case 0.01 mgm. $\beta$ -Iminazolyethylamine (Fig. 8).....	528
Dose in each case 0.002 $\beta$ -Iminazolyethylamine (Fig. 9).....	529
Dose in each case 0.01 $\beta$ -Iminazolyethylamine (Fig. 10).....	530
Dose in each case 0.005 mgm. $\beta$ -Iminazolyethylamine (Fig. 11).....	531
Horn of uterus of virgin cat in 250 cc. Ringer II. (Fig. 12).....	532
Horn of uterus of virgin cat (Fig. 13).....	533
Action of pennyroyal on the virgin uterus of cat (Fig. 1).....	549
Pregnant uterus. Oil of tansy. Bufagin does not resuscitate (Fig. 2).....	550
Effect of apiol on pregnant uterus (Fig. 3).....	551
Showing stimulating effect of bufagin and paralyzing effects of oleum hede- omae (pennyroyal) (Fig. 4).....	552