CONTENTS

NUMBER 1, AUGUST, 1923

I. The Influence of the Vagus on the Heart Rate. By J. Hamilton Crawford ... 1
II. The Effect of Light on the Behavior of Rats after Injections of Quinin and Quinidin Sulphates. By David I. Macht and Elmer J. Teagraden, Jr. ... 21
III. A Pharmacodynamic Analysis of the Cerebral Effects of Atropin, Homatropin, Scopolamin and Related Drugs. By David I. Macht ... 35
IV. A Pharmacological Comparison of Six Alcohols, Singly and in Admixture, on Paramecium. By Charles E. Bills ... 49

NUMBER 2, SEPTEMBER, 1923

V. The Standardization of Ergot Preparations. By W. A. Broom and A. J. Clark ... 59
VI. The Erythropoietic Action of Red Bone Marrow and Splenic Extracts. By Chauncey D. Leake and Elizabeth W. Leake ... 75
VII. The Histologic Detection of Iodids. By Edward J. Stieglitz ... 89
VIII. Drugs and Basal Metabolism. By Walter M. Boothby and Leonard G. Rowntree ... 99
IX. Leukocytic Reactions to Red Bone Marrow and Spleen Extracts. By Chauncey D. Leake ... 109
X. The Behavior of Rats after Injections of Bile Salts, Urea, Creatin and Creatinin. By David I. Macht ... 117
XI. Absorption of Drugs through the Eye, Ear, Teeth and Esophagus. By David I. Macht ... 123

NUMBER 3, OCTOBER, 1923

XII. Studies on Vomiting. By Robert A. Hatcher and Soma Weiss ... 139
XIII. The Permeability of Capillaries as influenced by Various Drugs. By Frank P. Underhill and Joseph Epstein ... 195

NUMBER 4, NOVEMBER, 1923

CONTENTS

NUMBER 5, DECEMBER, 1923

XVII. A Contribution to the Physiology and Pharmacology of the Trigonum vesicae. By Hugh H. Young and David I. Macht .......................... 329
XVIII. Comparative Study of the Blood Sugar Concentration in the Liver Vein, the Leg Artery and the Leg Vein During Insulin Action. By Carl F. Cori, Gerty T. Cori and Hilda L. Goets .......................... 355
XX. The Effect of Iodides on Nitrogen Metabolism. By G. P. Grabfield, B. J. Alpers and A. M. Prentiss .............................................. 393
XXI. The Hematopoietic Effects of Desiccated Red Bone Marrow and Spleen in Normal Humans. By Chauncey D. Leake ........................... 401
XXII. A Phytopharmacological Study of Menstrual Toxin. By David I. Macht and Dorothy S. Lubin .................................................... 413
XXIII. The Experimental Therapy of Amoebic Dysentery. By Andrew Watson Sellards ..................................................... 467
XXIV. Relation Between the Chemical Structure of Bile Acids and Their Phytopharmacological and Zoopharmacological Reactions. By David I. Macht and Olan R. Hyndman ........................................... 483
ILLUSTRATIONS

Actual increase and per cent increase in rate after atropine at various age periods (Fig. 1) ........................................ 4
Original rate and maximum height attained after atropine at various age periods (Fig. 2) ........................................ 5
Comparison of actual increase in rate after atropine in chronic heart disease with that of normals of the same age (Fig. 3) .......... 7
Comparison of effect of vagal release in chronic heart disease and normal of same age period (Fig. 4) ................................ 8
Comparison of actual increase in rate after atropine in goitre with normal persons of same age (Fig. 5) ......................... 9
Effect of vagal release in goitre compared to normal (Fig. 6) .......... 10
Comparison of actual increase in rate after atropine during convalescence from rheumatic fever, chorea, pneumonia and during typhoid fever with that of normal persons of same age (Fig. 7) .............. 10
Effect of vagal release during convalescence from pneumonia, rheumatic fever and chorea compared to normal (Fig. 8) .......... 11
Comparison of average increase in heart rate with varying dosage of atropine (Fig. 9) ........................................ 15
Circular maze (Fig. 1) ........................................ 36
Cerebral effects of belladonna alkaloids (Fig. 2) ........................ 46
Apparatus for counting Paramecia (Fig. 1) ............................ 51
The action of adrenalin on the isolated pregnant uterus of the rabbit (Fig. 1) ........................................ 64
The action of adrenalin before and after ergot on the isolated non-pregnant rabbit's uterus (Fig. 2) ............................... 65
The standardization of liquid extract of ergot (Fig. 3) ............... 67
The action of liquid extract of ergot upon the isolated uterus of the guinea-pig (Fig. 4) ........................................ 70
The influence of extract of ergot upon the adrenalin response of the blood pressure in a decerebrate cat (Fig. 5) ............... 70
The action of adrenalin and ergot on the uterus and blood pressure of a pithed cat (2 kilos) (Fig. 6) ............................... 71
Uterus and blood pressure of cat (figure 6 continued) (Fig. 7) ...... 72
The uterine movements in a decerebrate cat (Fig. 8) ............... 72
Curves showing the effects of three daily intravenous injections of 1 cc. per kilogram of a 5 per cent filtered saline solution of fresh red bone marrow and spleen, singly and in combination, on the number of circulating erythrocytes in rabbits (Fig. 1) ......................... 80
Typical curves illustrating the calorigenic action of adrenalin and thyroxin and the specific dynamic action of protein and glucose (Fig. 1) .... 105
Circular maze (Fig. 1) ........................................ 118
Dog, 11.2 kilos. Paraldehyde anesthesia (Fig. 1) ...................... 126
ILLUSTRATIONS

Dog. 5.7 kilos. Paraldehyde anesthesia (Fig. 2) .......................... 127
Dog. Paraldehyde anesthesia (Fig. 3) ................................. 128
Cat. Ether anesthesia (Fig. 4) ............................................. 129
Dog. Paraldehyde anesthesia (Fig. 5) ................................. 130
Dog. Paraldehyde anesthesia (Fig. 6) ................................. 131
Dog. Paraldehyde (Fig. 7) ............................................... 132
Dog. Paraldehyde anesthesia (Fig. 8) ................................. 133
Dog. Ether anesthesia (Fig. 9) .......................................... 135
Dog. Paraldehyde anesthesia (Fig. 10) ............................... 136

Diagram showing the areas destroyed in the floor of the fourth ventricle previous to the administration of various emetics (Fig. 1) ................. 152

Two experiments showing the effect of saline injected intravenously upon the blood concentration of dogs (Chart 1) ........................................ 198
Two experiments showing the effect of saline injected intravenously upon the blood concentration of dogs under ether anesthesia (Chart 2) ......... 199
Two experiments showing the effect of saline injected intravenously upon dogs under alcohol narcosis (Chart 3) ................................................. 201

Two experiments showing the behavior of the blood concentration when peptone is injected intravenously, and then followed by saline (Chart 5) . 203
An experiment showing the behavior of the blood concentration after the injection of choline hydrochloride (Chart 6) .................................. 205
Two experiments showing the behavior of the blood concentration when choline is injected intravenously, and then followed by saline (Chart 7) . 206
An experiment showing the behavior of the blood concentration after injection of atropin sulphate (Chart 8) ........................................ 207
Two experiments showing the behavior of the blood concentration when atropin sulphate is injected, and then followed by saline (Chart 9) ....... 208
An experiment showing the effect upon the blood concentration by the injection of pilocarpin hydrochloride (Chart 10) .......................... 210
Two experiments showing the behavior of the blood concentration when pilocarpin hydrochloride is injected, and then followed by saline (Chart 11) . 210

Indices of total intoxication after the administration of carbon tetrachloride (Fig. 1a) ....................................................... 223
Indices of maximum intensities of intoxication after administration of carbon tetrachloride (Fig. 1b) ............................................. 223
Illustrative curves of dye concentrations obtained by Rosenthal's modification of Abel and Rowntree's phenoltetrachlorphthalein liver function test (Fig. 2) ....................................................... 227
Graphic representation of the intensity, course, and duration of intoxication (Fig. 3) ................................................................. 227
Apparatus used for inhalation experiments (Fig. 4) ....................... 230
Phenoltetrachlorphthalein toxicity indices for the oral administration of 4 mils/kilo of carbon tetrachloride in dogs (Fig. 5) ......................... 237
Phenoltetrachlorphthalein toxicity indices for the oral administration of 6 mils/kilo of carbon tetrachloride in dogs (Fig. 6) ......................... 238
ILLUSTRATIONS

Phenoltetrachlorphthalein toxicity indices for the oral administration of 10 mls/kilo of carbon tetrachloride to dogs (Fig. 7) .......................... 239
Inhalation of carbon tetrachloride vapor (Fig. 8) ................................ 251
Phenoltetrachlorphthalein toxicity indices for the inhalation administration of carbon tetrachloride vapor for one hour in stage III (Fig. 9) 253
Phenoltetrachlorphthalein toxicity indices for the inhalation administration of carbon tetrachloride vapor for one hour in stage V (Fig. 10) 253
Intracaval injections of physiological saline saturated with carbon tetrachloride (Fig. 11) ................................................................. 255
Phenoltetrachlorphthalein toxicity indices for the intracaval injection of an 0.8 lethal dose of carbon tetrachloride (Fig. 12) ................................. 257
Injections of carbon tetrachloride into a branch of the vena cava (Fig. 13) 283
Injections of carbon tetrachloride into a branch of the vena cava (Fig. 14) 259
Injection of carbon tetrachloride into the peripheral end of the cut femoral artery (Fig. 15) ................................................................. 260
Intracaval injection of carbon tetrachloride in olive oil (Fig. 16) ............ 261
Pulmonary and carotid pressures after intracaval injections of carbon tetrachloride (Fig. 17) ................................................................. 262
Effect of carbon tetrachloride on the bronchi (Fig. 18) .......................... 262
Intraportal injection of carbon tetrachloride (Fig. 19) ............................. 264
Intraportal injection of carbon tetrachloride (Fig. 20) ............................. 264
Intracarotid injection (Fig. 21) ............................................................. 265
Intracarotid injection (Fig. 22) ............................................................. 265
Intrapertoneal injection (Fig. 23) .......................................................... 267
Phenoltetrachlorphthalein toxicity indices for the rectal administration of carbon tetrachloride (Fig. 24) ................................................. 267
Phenoltetrachlorphthalein toxicity indices for the oral administration of 4 mls/kilo of 97 per cent alcohol (Fig. 25) ........................................ 269
Phenoltetrachlorphthalein toxicity indices for the oral administration of 1 mil/kilo of 97 per cent alcohol mixed with 4 mls/kilo of carbon tetrachloride (Fig. 26) ......................................................... 270
Phenoltetrachlorphthalein toxicity indices for the oral administration of 4 mls/kilo of 97 per cent alcohol mixed with 4 mls/kilo of carbon tetrachloride (Fig. 27) ......................................................... 271
Phenoltetrachlorphthalein toxicity indices for the oral administration of 4 mls/kilo of 97 per cent alcohol mixed with 10 mls/kilo of carbon tetrachloride (Fig. 28) ......................................................... 272
Phenoltetrachlorphthalein toxicity indices for the oral administration of 4 mls/kilo of carbon tetrachloride one hour subsequent to administration of 20 mls/kilo of cream (Fig. 29) ................................................. 274
Phenoltetrachlorphthalein toxicity indices for the oral administration of 4 mls/kilo of olive oil mixed with 4 mls/kilo of carbon tetrachloride (Fig. 30) ......................................................... 276
Phenoltetrachlorphthalein toxicity indices for the oral administration of carbon tetrachloride (4 mls/kilo) to dogs kept for twenty-four hours before and after dosing in an ice box at a temperature of approximately 12°C. (Fig. 31) ......................................................... 277
Phenoltetrachlorphthalein toxicity indices for the oral administration of 4 mls/kilo of carbon tetrachloride in puppies (Fig. 32) ............................. 279
ILLUSTRATIONS

Crystalline product 50 to 62.5 times stronger than histamine acid phosphate (Fig. 1).......................... 299
Pituitary tartrate 550 times stronger than histamine acid phosphate (Fig. 2). 300
Pituitary tartrate 1000 times stronger than histamine acid phosphate (Fig. 3). 301
Pituitary tartrate 1250 times stronger than histamine acid phosphate (Fig. 4). 302
Cat, female, weight 2.8 kgm., ether anesthesia; carotid blood pressure (Fig. 5). 303
Shows action on the arterial blood pressure of small doses of the pituitary tartrate with an oxytocic value of 350 × β-1 phosphate, at a time when n-butyl alcohol no longer effects a separation into fractions of a different value (Fig. 6)......................... 304
Cat, male, weight 3.6 kgm.; ether (Fig. 7).................................................. 304
Diagram illustrating the diuretic effect of the pressor-oxytocic tartrate on a rabbit weighing 2.5 kgm. (Fig. 8)........ 306
Diagram illustrating the diuretic effect of the pressor-oxytocic tartrate on a rabbit weighing 2.5 kgm. (Fig. 9)........ 307
Diagram illustrating the destruction of the diuretic action of the pituitary tartrate by subjecting it to normal NaOH for one hour at room temperature (Fig. 10)....................... 308
Sagittal section of bladder (Fig. 1).................................................. 334
Sagittal section through urethra and bladder of adult (Fig. 2).................................................. 335
Normal trigon; trigonal muscle raised exposing the circular muscle layer; left ureter dissected free from the bladder wall and trigonal muscle pulled up as a sheet (Fig. 3)......................... 336
Endoscopic views of the vesical orifice and posterior urethra of six normal cases (Fig. 4)......................... 338
Trigonum vesicae (Figs. 5 and 6).................................................. 344
Trigonum vesicae (Figs. 7, 8 and 9).................................................. 345
Trigonum vesicae (Figs. 10 and 11).................................................. 346
Trigonum vesicae (Fig. 12).................................................. 347
Trigonum vesicae (Figs. 12 and 13).................................................. 348
Trigonum vesicae (Figs. 15 and 16).................................................. 349
Trigonum vesicae (Figs. 17 and 18).................................................. 350
Trigonum vesicae (Figs. 19 and 20).................................................. 351
Trigonum vesicae (Figs. 21, 22 and 23).................................................. 352
Lupinus albus seedlings in normal and test solutions (Fig. 1).................................................. 417
A series of experiments on lupinus seedlings performed at the same time (Fig. 2)................................. 418
Growth of lupinus seedlings in normal solution and changes produced by menstrual serum (Fig. 3)........ 426
Effect of menstrual sweat on flowers (Fig. 4).................................................. 432
Effect of menstrual toxin on sweet peas (Fig. 5).................................................. 433
Effect of menotoxin on cinerea (Fig. 6).................................................. 434
Effect of menotoxin on the geotropic properties of Lupinus albus (Fig. 7).......................... 439
Effect of menotoxin on fermentative activity of yeast (Fig. 8).................................................. 440
Effect of normal and menstrual sera on protoplasm of Nitella (Fig. 9).................................................. 444
Von Ott’s menstrual curve to show the variations of certain physiological functions in women in relation to menstruation (Fig. 10).................................................. 460