CONTENTS

NUMBER 1, JANUARY, 1930

I. Cobalt as Vasodilator. By J. M. Le Goff .......................... 1
II. The Effect of Certain Drugs on the Oxidation Processes of Mammalian Nerve Tissue. By M. A. F. Sherif ......................... 11
III. The Action of Some Heart Tonics. By Emil Leyko .................. 31
IV. The Effect of Ammonium Chloride on the Development of Rigidity in Experimental Local Tetanus. By H. H. Dixon and S. V. Ranson ....... 51
V. Biochemical Studies on the Absorption of the Ethylester of Paramethylphenylechinoninic Acid (Tolysin) and Its Fate in Metabolism. I. The Absorption of Tolysin from the Intestinal Tract. By Otto Fürth and Erwin Kuh ........................................ 57
VI. Biochemical Studies on the Absorption of the Ethylester of Paramethylphenylechinoninic Acid (Tolysin) and Its Fate in Metabolism. II. The Fate of Tolysin in Metabolism and Its Toxicity. By Otto Fürth and Erwin Kuh .......................... 71
VII. Simultaneous Recording of Peristalsis and Action of the Pyloric Value in the Isolated Stomach of the Frog. I. The Influence of Acidity and Basicity. By Jesse L. Serby and M. S. Dooley .......................... 85
IX. Studies on Pupillary Reactions in Tetrapods. VII. Sympathetic Actions of Cocaine, Procaine and Pilocarpine. By Theodore Koppányi .................. 113
XI. Experimental and Clinical Studies of Ergotamine. II. The Effect of Ergotamine on the Heart Rate of Trained, Unanesthetized Dogs. By John B. Youmans and William H. Trimble .......................... 133

NUMBER 2, FEBRUARY, 1930

XIII. Toxicity of Lead Compounds. By Johannes S. Buck and Donald M. Kumro ........................................ 161
XV. An Artificial Heart. By O. S. Gibbs .................................. 197
XVII. The Liberation of Formaldehyde in the Aqueous Humour of the Eye after Administration of Hexamine (Urotropine). By M. A. F. Sherif .......................... 231
CONTENTS

XVIII. The Estimation of Small Quantities of Strychnine in Biologic Material. By James T. Priestley .............................................. 241

NUMBER 3, MARCH, 1930

XX. The Pharmacology of Xysmalbinum. By J. M. Watt .......................................... 261
XXI. The Toxic Effects of Irradiated Ergosterol. By J. C. Hoyle ...................... 271
XXII. Some Effects of Alcohol upon the Normal and Damaged Liver. By Sanford M. Rosenthal ............................................. 291
XXIII. Studies in Blood Composition of Animals under Pathological Conditions. II. Experiments with Lupines. By A. A. Horvath .............. 303
XXV. II. The Action of Ephedrine, Pseudoephedrine and Epinephrine on the Bronchiolar Muscle of the Isolated Lung. By Edward E. Swanson and Robert K. Webster .................................................. 327
XXVI. Magnesium Oxide as an Aid to the Antipyretic Action of Phenacetin in Dogs. By J. E. Winter, C. H. Richey and H. G. Barbour ............................................. 343

NUMBER 4, APRIL, 1930

XXVII. Growth and Bone Changes in Rats Injected with Anterior Pituitary Extract. By Milton B. Handelsman and Ernest F. Gordon .......... 349
XXVIII. The Effect of Hypertonic Solutions of Sodium Arabinate on the Cerebrospinal Fluid Pressure. By Joseph Hughes and Louis Laplace ........... 363
XXIX. The Potassium and Calcium Content of the Brain under MgSO4 Anesthesia. By W. E. Callison, J. Lander, and F. P. Underhill ......................... 385
XXXI. Further Observations on the Effect of Pituitary Extract and Morphine Sulphate upon Excised Dog's Intestine. By Charles M. Gruber and Garrett Pipkin .................................................. 401
XXXII. Studies on the Colloid Chemistry of Antisepsis and Chemotherapy. I. The Mode of Combination of Antiseptic Dyes with Proteins. By Arthur D. Hirschfelder and Harold N. Wright ............................................. 411
XXXIII. Studies on the Colloid Chemistry of Antisepsis and Chemotherapy. II. Does the Fraction of an Antiseptic Which Has Been Adsorbed on Protein Still Exert an Antiseptic Action? By Harold N. Wright and Arthur D. Hirschfelder ........................................................................................................ 433
XXXV. The Cardiac Action of Pituitary Extract (Posterior Lobe). By Jas. B. Ross, N. B. Dreyer and R. L. Stehle with the cooperation of O. S. Gibbs ........................................................................................................ 461
XXXVII. Index .................................................................................................................................................. 481
ILLUSTRATIONS

Record of the blood pressure. × 4. Rabbit 3 kgm. Morphin anesthesia
(Fig. 1) .......................................................... 8
Showing the effect of novocaine borate 2 per cent solution on oxygen uptake
(Fig. 1) .......................................................... 17
Effect of novocaine borate 0.5 per cent solution on oxygen uptake (Fig. 2) .... 18
— of cocaine hydrochloride 1 per cent solution on oxygen uptake (Fig. 3). 18
— of cocaine hydrochloride 0.5 per cent solution on oxygen uptake (Fig. 4). 19
— of cocaine hydrochloride 0.2 per cent solution on oxygen uptake (Fig. 5). 20
— of urethane 5 per cent solution on oxygen uptake (Fig. 6) ..................... 21
— of urethane 2.5 per cent on oxygen uptake (Fig. 7) .......................... 22
— of caffeine citrate 0.1 per cent solution on oxygen uptake (Fig. 8) ....... 23
— of caffeine citrate 1 per cent solution on oxygen uptake (Fig. 9) .......... 24
— of eucupinotoxin 0.2 per cent on oxygen uptake (Fig. 10) ............... 25
— of galactose 0.1 per cent solution on oxygen uptake by isolated nerve
(Fig. 11) .......................................................... 26
Cardiazol (Fig. 1) ................................................. 34
Coramine (Fig. 2) .................................................. 37
— (Fig. 3) .......................................................... 37
Hexetone (Fig. 4) .................................................. 39
— (Fig. 5) .......................................................... 40
Adrenaline-ephetrine (Fig. 6) .............................................. 43
— ephetonine (Fig. 7) .............................................. 44
Shows apparatus used, except for lower part of drop recorder (Fig. 1) ....... 88
A condensed record (1 to 7) of a single experiment, illustrating both acid and
alkali effects (Fig. 2) ........................................... 91
Simultaneous recording of peristalsis and action of the pyloric valve in the
isolated stomach of the frog. I. The influence of acidity and basic-
ity (Fig. 3) .......................................................... 95
Effect of ergotamine on the blood sugar: curves showing a rise and a fall
in Normal unanesthetized dogs (Fig. 1) .................................. 127
— of ergotamine on the hyperglycemic response to an injection of epi-
nephrine in a normal dog (Fig. 2) .................................. 128
— of ergotamine on the epinephrine hyperglycemia of a normal dog
(Fig. 3) .............................................................. 129
Tracing from isolated toad’s heart, perfused with acriflavine, 1:250,000
(Fig. 1) .............................................................. 147
— from isolated intestine of rabbit (Fig. 2) .................................. 149
Blood pressure tracing from anesthetised dog (Fig. 3) .......................... 150
Section of kidney, under 1-inch objective, showing typical dilation of the
tubules and the atrophy of the epithelium (Fig. 4) .......................... 156
— of spleen, under 1-inch objective, showing a portion of one of the ‘tra-
beculae and the adjoining splenic pulp (Fig. 5) .......................... 156
Section of liver, under 4-inch objective, showing an area in which the liver cells are shrunken and atrophied (Fig. 6) ........................................ 157
An artificial heart (Fig. 1) .................................................. 200
— artificial heart (Fig. 2) .................................................. 200
— artificial heart (Fig. 3) .................................................. 201
Photograph of the instrument in place on a cat (Fig. 4) .......... 202
An artificial heart (Fig. 5) .................................................. 203
Shows the effect of commercial pituitrin (Fig. 6) ............... 209
— the effect of 0.5 mgm. ergotoxin (Fig. 7) ......................... 209
— the effect of adrenalin (1 drop 1:1000) on a circulation in which reversal is probably complete (Fig. 8) ....................... 210
— a typical adrenalin reaction (Fig. 9) ................................. 210
— the typical result of a vaso-depressor (Fig. 10) ............... 212
Biochemical studies of mercury compounds (Fig. 1) ............ 221
— studies of mercury compounds (Fig. 2) ............................ 221
Apparatus for the determination of pH in gas mixture (Fig. 1) 233
Effects of pure nitrous oxide anesthesia on human blood pressure (Fig. 1) .................................................. 248
— of pure nitrous oxide anesthesia on human blood pressure (Fig. 2) .................................................. 249
— of pure nitrous oxide anesthesia on human blood pressure (Fig. 3) .................................................. 251
— of pure nitrous oxide anesthesia on human blood pressure (Fig. 4) .................................................. 252
— of pure nitrous oxide anesthesia on human blood pressure (Fig. 5) .................................................. 254
— of pure nitrous oxide anesthesia on human blood pressure (Figs. 6 and 7) .................................................. 255
— of pure nitrous oxide anesthesia on human blood pressure (Fig. 8) .................................................. 256
— of pure nitrous oxide anesthesia on human blood pressure (Figs. 9A and 9B) .................................................. 257
Pharmacology of Xysmalobinum (Figs. 1 and 2) ................. 264
— of Xysmalobinum (Fig. 3) .................................................. 265
— of Xysmalobinum (Fig. 4) .................................................. 266
— of Xysmalobinum (Fig. 5) .................................................. 267
Toxic effects of irradiated ergosterol (Fig. 1) ...................... 273
Section of thoracic aorta of rat 5 (Fig. 2) ........................... 276
— of thoracic aorta of rat 5 (Fig. 3) ..................................... 277
— of myocardium of rat 8 (Fig. 4) ..................................... 277
— of myocardium of rat 8, showing the wall of a small arteriole completely replaced by calcium deposit (Fig. 5) ........ 277
— of kidney of rat 8, showing much calcium deposit at the junction of medulla and papilla (Fig. 6) .................... 277
Toxic effects of irradiated ergosterol (Fig. 7) ...................... 279
— effects of irradiated ergosterol (Fig. 8) ............................. 282
Effect of 2 cc. alcohol per kilogram on normal dogs (Chart 1) 293
— of 4 cc. alcohol per kilogram on the phenoltetrachlorphthalein test in normal dogs (Chart 2) ................................. 293
Effects of alcohol on the normal and damaged liver (Chart 3) 294
Alcohol on normal and damaged liver (Chart 4) ................. 296
— on normal and damaged liver (Chart 5) ......................... 297
— on normal and damaged (with CCl₄) liver (Chart 6) .......... 298
— on normal and CCl₄ damaged liver (Chart 7) ................... 299
Representing the perfused isolated lungs of a rabbit, female, weight 1.75 kgm.

(Chart 1) .................................................... 333

— the perfused isolated lungs of a cat, male, weight 2.200 kgm. (Chart 2) .... 334

— the perfused isolated lungs of a cat, male, weight 1.8 kgm. (Chart 3) ... 335

— the perfused isolated lungs of a dog, female, weight 6.5 kgm. (Chart 4) ... 336

— the perfused isolated lungs of a cat, male, weight 1.9 kgm. (Chart 5) .... 337

Antipyretic effects of phenacetin 200 mgm. per kilogram plus magnesium 100 mgm. per kilogram (heavy lines and circles) compared with phenacetin alone (light lines) (Figs. 1 to 6) ................................... 345

— effects of phenacetin alone (Fig. 7) ........................................ 346

Average growth results in a cage of eight rats, 4 of which received 0.5 cc. of the alkaline pituitary extract twice daily for thirteen days (Curve A). 355

— growth results in a cage of eight rats, 4 of which received 0.5 cc. of the alkaline pituitary extract twice daily for thirteen days (Curve B) .... 355

Medial aspect of the mandible from the same animal as in figure 2 (Fig. 1) .... 358

— aspect of the mandible from the same animal as in figure 1 (Fig. 2) .... 358

Lateral aspect of the mandible of an experimental rat weighing 215 grams at the onset of the experiment. 0.5 cc. of alkaline pituitary extract was administered twice daily for two weeks, with madder included in its diet throughout this period (Fig. 3) ........................................ 358

— aspect of the mandible of an untreated control animal, weighing 215 grams after ingesting madder for two weeks (Fig. 4) ................. 358

Dialysis of cerebrospinal fluid against glucose and sodium arabinose through collodion saes (Fig 1) .................................................. 369

Experiment 28. (Dog 979, weight 8.5 kgm. Amytal anesthesia.) Effect of 27 per cent solution sodium arabinose (2.3 cc. per kilogram) on cerebrospinal fluid pressure, blood pressure, and respiration (Fig. 2) ......................... 372

— 40. (Dog 760, weight 10 kgm. Colonic ether anesthesia.) (Time, 6 seconds.) Effect of 25 per cent solution sodium arabinose (2.5 cc. per kilogram) on cerebrospinal fluid pressure, blood pressure, and respiration (Fig. 3) .......................... 373

— 40. (Dog 760, weight 10 kgm. Colonic ether anesthesia.) (Time, 6 seconds.) Effect of 50 per cent glucose (2.5 cc. per kilogram) (Fig. 4) ..... 375

— 38. (Dog 762, weight 12 kgm. Amytal anesthesia.) Effect of sodium arabinose (1.7 cc. per kilogram 25 per cent solution) on blood and cerebrospinal fluid pressures (Fig. 5) ........................................... 376

— 10. (Dog 5, weight 7 kgm. Amytal anesthesia.) Effect of ammonium arabinose (2.8 cc. per kilogram 25 per cent solution) on cerebrospinal pressure (Fig. 6) .................................................. 378

— 14. (Dog 827, weight 4.5 kgm. Amytal anesthesia.) Effect of ammonium arabinose (2.6 cc. per kilogram 25 per cent solution) on cerebrospinal pressure (Fig. 7) .................................................. 379

— 23. (Dog 355, weight 17.9 kgm. Amytal anesthesia.) Effect of sodium arabinose (2.2 cc. per kilogram 25 per cent solution) on cerebrospinal pressure (Fig. 8) .................................................. 380

— 26. (Dog 962, weight 6.8 kgm. Amytal anesthesia.) Effect of sodium arabinose (2.9 cc. per kilogram 25 per cent solution) on cerebrospinal pressure (Fig. 9) .................................................. 381
Experiment 36. (Dog 6, weight 6.7 kgm. Amytal anesthesia.) Effect of sodium arabinate (2.9 cc. per kilogram 25 per cent solution) on blood pressure and increased cerebrospinal pressure (Fig. 10) 382

- Unanesthetized 10 kgm. dog, intact intestine (Fig. 1) 392
- 10 kgm. dog (Fig. 2) 393
- 14 kgm. dog. Unanesthetized (Fig. 3) 394
- 9.5 kgm. dog. Unanesthetized (Fig. 4) 396
- Unanesthetized 14.2 kgm. dog (Fig. 5) 397
- 14 kgm. dog. Unanesthetized (Fig. 6) 399
- Longitudinal segment of normal intestine (Fig. 1) 403
- segment of normal intestine (Fig. 2) 404
- segment of normal intestine (Fig. 3) 406
- segment of normal intestine (Fig. 4) 407

Excised longitudinal segment from a Thiry-Vella loop of dog's intestine (Fig. 5) 408

Segment from a Thiry-Vella loop of dog's intestine (Fig. 6) 409

- Types of chemical and physico-chemical reaction (Fig. 1) 416
- Binding of crystal violet, gentian violet and rose bengal by coagulated egg albumin (Fig. 2) 420
- Retarding effect of 0.5 per cent egg albumin on rate of dialysis of mercurychrome (Fig. 3) 421
- Diagrammatic representation of probable effect of concentration of a protein upon its free surface (Fig. 4) 424
- Application of Freundlich absorption isotherm equation to binding of triphenyl methane dyes by egg albumin (Fig. 5) 427
- Structural formulas of triphenyl methane dyes (Fig. 6) 428
- Binding of crystal violet and malachite green by 1 per cent egg albumin (Fig. 1) 442
- Effect of 1 per cent egg albumin in decreasing the antiseptic efficiency of crystal violet (Fig. 2) 443
- of 1 per cent egg albumin in decreasing the antiseptic efficiency of malachite green (Fig. 3) 444
- Lag phase in antiseptic action of basic fuchsin (Fig. 4) 447
- On the immediate anti-diuretic action of pituitary extract (Fig. 1) 457
- the immediate anti-diuretic action of pituitary extract (Fig. 2) 457
- the immediate anti-diuretic action of pituitary extract (Fig. 3) 457
- The cardiac action of pituitary extract (posterior lobe) (Fig. 1) 466
- cardiac action of pituitary extract (posterior lobe) (Fig. 2) 467
- cardiac action of pituitary extract (posterior lobe) (Fig. 3) 467
- cardiac action of pituitary extract (posterior lobe) (Fig. 4) 468
- cardiac action of pituitary extract (posterior lobe) (Fig. 5) 469
- cardiac action of pituitary extract (posterior lobe) (Fig. 6) 470
- action of pituitary extract upon blood pressure (Figs. 1-4) 476
- action of pituitary extract upon blood pressure (Figs. 5-8) 477
- action of pituitary extract upon blood pressure (Figs. 9-12) 478