CONTENTS

N	UMBER	1.	SEPTEMBER,	1929
---	-------	----	------------	------

,	
Concerning the Alleged Antidotal Action of Sodium Thiosulfate in Mercuric Chloride Poisoning. By K. I. Melville and M. Bruger	
D. A. Wood VII. The Intestinal Activity in Unanesthetized Dogs as Influenced by	01
Morphine and by Papaverine. By Charles M. Gruber and Paul I. Robinson	
Number 2, October, 1929	
•	
VIII. Functional Changes in the Autonomic System and the Action of Mercury. By William Salant and Keeve Brodman	121
	131
• •	147
XII. Further Studies on the Relation of Heterocyclic Compounds to the	
XIII. Ethers of Formocholine and Choline. By Reid Hunt and R. R.	
Renshaw XIV. The Absorption, Distribution and Excretion of Carbon Tetrachloride	193
	203
XV. Ethyl Alcohol in Fowls after Exposure to Alcohol Vapor. By Thorne M. Carpenter	217
Number 3, November, 1929	
XVI. The Effect of the Repeated Administration of Diethyl Barbituric Acid	001
and of Cyclo-hexenyl-ethyl Barbituric Acid. By Nathan B. Eddy XVII. The Excretion of Di-ethyl Barbituric Acid During Its Continued Administration. By Nathan B. Eddy	

XX. The Physiological Action of Some Homologues of Betaine and Choline Esters. By R. R. Renshaw and Reid Hunt		
XX. The Physiological Action of Some Homologues of Betaine and Choline Esters. By R. R. Renshaw and Reid Hunt	Stream after Intravenous Administration in Dogs. By L. A. Crandall, C. D. Leake, A. S. Loevenhart, and C. W. Muehlberger	
Esters. By R. R. Renshaw and Reid Hunt		297
Unanesthetized Dogs. By F. F. Yonkman		309
Margaret E. MacKay	· · · · · · · · · · · · · · · · · · ·	339
XXIII. Tetiothalein Sodium—N.N.R. (Tetraidophenolphthalein) as an Antiseptic and a Germicide of the Biliary Tract. By Allen C. Nickel	· ·	
XXIV. Observations on the Depressor Substances in Certain Tissue Extracts. By Ralph H. Major and C. J. Weber	XXIII. Tetiothalein Sodium—N.N.R. (Tetraidophenolphthalein) as an	
Number 4, December, 1929 XXV. On the Pregnancy-response of the Uterus of the Cat. By H. B. Van Dyke and R. G. Gustavson		359
XXV. On the Pregnancy-response of the Uterus of the Cat. By H. B. Van Dyke and R. G. Gustavson	tracts. By Ralph H. Major and C. J. Weber	367
Dyke and R. G. Gustavson	Number 4, December, 1929	
to the Theory of Narcosis and Analgesia. By Arthur D. Hirschfelder	Dyke and R. G. Gustavson	37 9
By L. C. Maxwell and Fritz Bischoff	to the Theory of Narcosis and Analgesia. By Arthur D. Hirschfelder	399
upon the Heart. By Charles M. Gruber and Paul I. Robinson	By L. C. Maxwell and Fritz Bischoff	413
creatized Dog. By Elaine Ralli and Arthur M. Tiber	upon the Heart. By Charles M. Gruber and Paul I. Robinson	429
Solutions of Cystine. By Meyer Bodansky	creatized Dog. By Elaine Ralli and Arthur M. Tiber	451
XXXI. The Effect of Pituitary on the Bird. By R. Morash and O. S. Gibbs. 475 XXXII. Diuresis and Individual Tolerance in Experimental Barbital Poisoning. By Walter E. Gower and Arthur L. Tatum		463
Poisoning. By Walter E. Gower and Arthur L. Tatum 481	contions of Cybride. By many continues of the continues of the cybride of the cyb	
		401

ILLUSTRATIONS

Diagram of apparatus. Muscle chamber connected with gas tank, muscle mounted and ready for stimulation (Fig. 1)	10
Relation between tension of narcotic, and narcosis of frog sartorius (Fig.	
2)	19
Small intestines of different rats in 100 cc. of oxygenated Locke solution,	
37°C (Fig. 1)	57
The effect of mercury on intestinal motility (Fig. 2, a and b)	60
Experiment 791. Cat, weight, 2.9 kgm. Urethane (Fig. 3)	62
(Fig. 1)	78
Typical electrocardiographic changes after a blank liver extract, containing	
added digitalis (1 M.Em.D.), injected intravenously (Fig. 2)	82
Electrocardiographic changes in pigeons after intravenous injection of liver	
and heart extracts of a digitalized pigeon receiving 1 m.f.d. of digitalis	
(Fig. 3, a to d)	83
Electrocardiograms after liver and heart extracts of a digitalized pigeon	
receiving 6 m.f.d.'s of digitalis (Fig. 4, a to e)	84
Negative result with the blood extract of a pigeon receiving 3 m.f.d.'s of	
digitalis (Fig. 5, a and b)	85
Unanesthetized 17 kgm. dog (Fig. 1)	
Same animal as in figure 1 (Fig. 2)	108
animal as used in figure 1, but this experiment was performed one week	
later (Fig. 3)	109
Unanesthetized dog, 10 kgm. (Fig. 4)	111
Female dog, 18 kgm. (Fig. 5)	112
— dog, 14 kgm. (Fig. 6)	113
Same animal as used in figure 1 (Fig. 7)	
Female dog, 15 kgm., unanesthetized (Fig. 9)	118
Functional changes in the autonomic system and the action of mercury	
(Fig. 1, a and b)	122
changes in the autonomic system and the action of mercury (Fig. 2, a	
and b)	126
Cat 11, adrenals tied and liver denervated. Showing the changes in the	
rate of the denervated heart, in the blood pressure and the body tem-	
perature following the intravenous injection of 0.15 mgm. per kilogram	
strychnine sulphate (Fig. 1)	
—— 26, adrenals intact and liver not denervated. Showing the changes in the	
rate of the denervated heart, in the blood pressure and the body tempera-	
ture following the intravenous injection of strychnine sulphate (Fig. 2)	139

Showing the changes in the rate of the denervated heart, in the blood pressure	
and the body temperature following the subcutaneous injection of 15	
mgm. per kilogram morphine sulphate in cat 22, adrenals tied off but liver	
nerves not divided (Fig. 1)	151
the changes in the rate of the denervated heart, in the blood pressure	
and the body temperature following the subcutaneous injection of 15	
mgm. per kilogram morphine sulphate in cat 20, adrenals intact and liver	
innervated (Fig. 2)	
December 1, 1928. Decerebrate cat with divided vagi (Fig. 1a)	163
Immediately following 1a (Fig. 1b)	
December 15, 1928. Decerebrate cat with bilateral vagotomy (Fig. 2a)	
November 6, 1928. Decerebrate cat with bilateral vagotomy (Fig. 2b)	164
January 24, 1929. Chloroform anesthesia (Fig. 3a)	166
Same animal as 3a (Fig. 3b)	166
anuary 5, 1929. Ether induction until vagi were non-responsive (V) (Fig.	
4)	167
Same animal as figure 4 without ether twenty minutes later (Fig. 5)	167
— animal as figures 4 and 5 (Fig. 6)	168
fanuary 10, 1929. Decerebrate cat (Fig. 7a)	172
The behavior of the extracardiac nerves of the cat under ether—a potential	
source of error (Fig. 7b)	173
absorption, distribution and excretion of carbon tetrachloride in dogs	
under various conditions (Fig. 1)	209
Arrangement for the exposure of hens to the vapor of ethyl alcohol (Fig. 1).	220
Equilibrium polygons formed from the plotted concentrations of alcohol	
(milligrams of alcohol per gram of tissue) in the blood, heart and lungs,	
kidneys, and spleen of individual hens (Fig. 2)	232
- polygons formed from the plotted concentrations of alcohol (milli-	
grams of alcohol per gram of tissue) in the blood, whole body, liver, and	
remainder (bones and muscles) (Fig. 3)	234
polygons formed from the plotted concentrations of alcohol (milligrams	
of alcohol per gram of tissue) in the blood, whole body, brain, and eggs	
(immature) (Fig. 4)	237
- polygons formed from the plotted concentrations of alcohol (milligrams	
of alcohol per gram of tissue) in the blood, whole body, skin, and fat	
(Fig. 5)	24 0
Percentage amount of barbital excreted (Fig. 1)	278
Graph showing percentage fall in blood pressure and rate of disappearance	
of glyceryl trinitrate after intravenos injection in dogs (Fig. 1)	294
Veightless lever (Fig. 1)	298
Normal contractions. Time given in 5 seconds (Fig. 2)	299
"string bead" contractions (Fig. 3)	300
Cemperature increase (Fig. 4)	300
decrease (Fig. 5)	301
PH increase (Fig. 6)	301
— decrease (Fig. 7)	
Pilocarpin hydrochloride, 1:20,000 (Fig. 8)	

ILLUSTRATIONS	vii
Barium chloride, 1:100,000 (Fig. 9)	303
Adrenalin chloride, 1:100,000 (Fig. 10)	
Pituitrin, 0.1 cc. in 100 cc. of Locke's solution (Fig. 11)	304
Urea, in 1:1000 and 1:100 concentration (Fig. 12)	304
-, 1:1000 and 1:100 contentration (Fig. 12)	305
, 1:1000. Starting up contractions in a non-active muscle (Fig. 13), 1:1000. Increasing the contractile vigor in a weakly contracting muscle	300
	205
preparation (Fig. 14)	300
The effect of temperature and drugs on the spiral muscle of the renal papilla	200
(Fig. 15)	306
Effect of strychnine sulphate on muscular activity of the ileum in the same	044
dog (Fig. 1)	344
A, Effect of atropine sulphate, 0.2 mgm. per kilogram, hypodermic injection,	
on the activity of the ileum. B, Effect of strychnine sulphate, 0.07 mgm.	
per kilogram, intravenous injection, after the administration of 0.195	
mgm. per kilogram of atropine sulphate, on the activity of the ileum	
(Fig. 2)	345
Cat, chloralose, showing the rise in blood pressure following the injection of	051
histamine (Fig. 1)	
Histamine and adrenaline in relation to the salivary secretion (Fig. 2)	352
Cat, decerebrate, showing the action of histamine on secretion and blood	
pressure following removal of the adrenals (Fig. 3)	
, decerebrate, showing the abolition of the secretory effect of histamine by	
adrenaline (Fig. 4)	
Effect of liver extract upon blood pressure of a rabbit (Fig. 1)	
- of liver extract upon blood pressure of atropinized rabbit (Fig. 2)	
of purified and concentrated liver extract upon the blood pressure of	
rabbit (Fig. 3)	
— of liver extract first treated with lead and then as described by method	
of Best, Dale, Dudley and Thorpe (Fig. 4)	
— of brain extract upon blood pressure of rabbit (Fig. 5)	
The effect of hypogastric-nerve stimulation on the movements of the uterus	
in situ (Fig. 1)	
A, ovariectomized cat after administration of placental extract; B, ovariecto-	
mized cat after administration of follicular liquid extract (Fig. 2)	
, ovariectomized cat after administration of lipoidal corpus-luteum	
extract; B, ovariectomized cat after administration of aqueous corpus-	
luteum extract in combination with placental extract (Fig. 3)	
Degree of uterine hypertrophy commonly induced by administration of	
placental, follicular-liquid and lipoidal corpus-luteum extracts (Fig. 4)	392
Sections of uteri of ovariectomized animals (\times 13\frac{1}{3}) (Fig. 5)	
— of ovary (5) and uterus (6) of cat which received lipoidal corpus-luteum	ı
extract (× 20) (Fig. 6)	394
Excised terrapin ventricle perfused with normal saline through a cannula	
inserted in the coronary artery. Top record, that of the heart, bottom	
record the time interval in two second intervals and the middle record the	
rate of perfusion in drops (Fig. 1)	435
Same heart as that used in figure 1 (Fig. 2)	435

Top record the contractions of the excised terrapin heart; bottom record the time interval in two-second intervals and the middle record the rate of	
the perfusion fluid leaving the heart in drops (Fig. 3)record shows the ventricular contractions superimposed in most in-	436
stances upon the smaller auricular contractions; middle record the rate of perfusion flow in drops and bottom record the time interval in two	
•	437
record contractions of the excised terrapin heart; middle record the rate of perfusion flow from the heart and the bottom record the time in	
	43 9
Arrangement of levers the same as in the previous figures (Fig. 6)	440
Top record cardiac contraction; middle record the perfusion flow in drops and	
bottom record marks two-second intervals (Fig. 7)	441
Kitten (one-quarter grown cat) heart perfused through the coronary vessels, with oxygenated Locke's solution pH 7.4 modified by the addition of	
defibrinated blood from the animal. Top record the contractions of the	
heart and below it the perfusion pressure in millimeters of mercury;	
middle record the perfusion flow in drops; bottom record the time interval	
in fifteen seconds and above it the time of the injection and zero perfusion	
	443
Rabbit heart perfused as in figure 8. Top record the cardiac contractions,	110
and below it the perfusion rate in drops; middle record the perfusion	
pressure in millimeters of mercury; bottom record the time interval in	
fifteen seconds and zero perfusion pressure and above it the time of the	
injections (Fig. 9)	443
Excised rabbit heart. Protocol same as figure 9 (Fig. 10)	444
Seventeen-kilogram dog under paraldehyde anesthesia. Heart plethysmo-	
graphed. Top record the changes in the volume of the heart, middle	
record the blood pressure with a mercury manometer and the bottom	
record the time in fifteen-second intervals (Fig. 11)	445
Two and one-half-kilogram cat under wethane anesthesia. Upper curve the	
plethysmographic record of the heart, bottom one the time in fifteen	
seconds and above it the blood pressure in millimeters of mercury	
(Fig. 12)	446
The effects of administering thiocyanate, cyanide, and cyanide together with	
cystine on the thiocyanate elimination in the saliva (Fig. 1)	467
Showing the diminishing effects of repeated doses of oxytocin on the blood	
pressure of birds (Fig. 1)	476
the effect of injecting vasopressin immediately after oxytocin (Fig. 2)	476
the typical effect of vasopressin on the blood pressure and venous return	476
of the leg (Fig. 3)typical effect of vasopressin on the blood pressure and venous return	410
(log) (Fig. 4)	47R