

Sir David Bruce's notebook of bacteriological experiments including rabies and cholera, undertaken as Assistant Professor of Pathology at the Army Medical School at Netley

Publication/Creation

1893

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Experiments.

Commenced. 13th Jan^y 1893.

R.A.M.C
MUNIMENT
ROOM

WATERLOW & SONS LIMITED,
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ACCOUNT



BOOK

MANUFACTURERS
TO HER MAJESTY'S GOVERNMENT.

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ROOM

RAMC

599

David Bruce.

1831, Book 1

1831

1831

1831, Book 1

David Bruce.

Army Book, 130.

Books.

130.

13. 600 bks. 5-01.

R.A.M.C
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Effect of injection of J. Fibrinogen Sol. into Ear vein of rabbit.

1893.
Jan. 13

Exp. 74. Medium sized Rabbit.

			Eos.	Poly.	Myel.	Lym.	
12:45	W.B.C.	A.	✓ 8%	40%	35%	17%	✓ 4.200.
1. 5	<u>Injected 20ccs J.F. Boiled into ear v.</u>						
1. 20	W.B.C.	B.	✓ 15%	30%	28%	27%	✓ 3.000.
2. 45	do	C.	✓ 10%	38%	26%	26%	✓ 5.800.
3. 50	do						✓ 7.300
14. 12:30.	do.	D.	✓ 5%	48%	28%	19%	✓ 10.200
15. 11:30.	do.						✓ 11.700.
12:35	<u>Injected 20ccs J.F.</u>						
12:45	W.B.C.						✓ 5.700.
1. 25.	do.						✓ 12.200
16. 10:15.	do.						✓ 10.300
11. 5.	<u>Injected 20ccs J.F.</u>						
11. 30.	W.B.C.						✓ 9.500
2. 30.	do.						✓ 19.650.
3. 30.	<u>Injected 20ccs J.F.</u>						
17. 1. 0.	W.B.C.		A64				✓ 14.000.
			2.38.				
2. 0.	<u>Injected 20ccs J.F.</u>						

By accident some air was present in tube. Animal struggled & died almost instantly.

Finis

Effect of injection of peptone on W.B.C. &c. &c. (A.E.W.)

2

Exp. 75. Dog ♂. circ. 10 Kilos.

1893.

Jan 13. 12:40 Chloroform & Ether given.
12:40 Coverglass prep^s made. A: Blood.
12:45. Cut out central half of left femur.
12:50. Injected 50ccs 10% Peptone Sol. in .75 NaCl Sol.
Breathing ceases but revives on artificial respiration, and continues
for 10 mins. then ceases finally. No dyspnoeic reaction.
Carotid Blood remains liquid for 3 hours or more.
Venous blood clots in circ. 5'.
Cut out right femur before 1 o'clock
Made C-g. preps. of Carotid = B: Blood.
After death dissected out thoracic duct & found it quite
full of lymph - Made C-g. preps. of lymph.
Made C-g. preps. of bone marrow before & after pep. injection.
Also of lymph gland from behind root of rt. lung.
Cannot demonstrate any eosinophilous granules in cells of
bone marrow many polynuclear cells.

Finis

Effect of starvation on No. of W.B.C.

A.E.W.

3

Exp. 76. Fox-terrier: circ. 6 Kilos.

1893.					WBC in 1 cm. m.
Jan	13. 5 pm.	Fed.			
"	14.	No food.			
"	15. 11. 0.	do.	A. Blood.		5.000
"	16. 11. 0.	do.	B. "		5.600.
	11. 30.	Fed. Meat, bread & milk.			
	2. 45.				8.000
17.		Fed as usual.			
	1. 0		C. Blood.		5.800

Finis

Effect of starvation on No. of W.B.C.

A. E. W.

4

Exp. 77. Dog. wgt. 9 Kilos.

				WBC in 1 cmm.
1893.				
Jan	13.	5 pm.	Fed for last time.	
"	15.	11.0.	No food.	A. Blood. 10.000
	16.	11.0.	do.	B. Blood. 13.400
		11.30.	Fed.	
		2.45.		C. Blood. 12.000
	17.		Fed as usual.	
		1.0.		D. Blood. 11.600

Finis.

5

~~Effect of injection of *S. Fibrinosus* into~~
Ear vein of rabbit. Anthrax
in Rabbits.

Exp 78.

Control Experiment -

1893.			
Jan.	26	a m 11:0	Injected 1 cc Broth cultivation: (24 hrs at 35°C) Anthrax under skin of back.
	27	2:0	Temp: 103.4°F.
	30	12:0	" 105° F

	Eos	Poly	My	Lym
A Blood.	① 5-	52-	22-	21
	② 13-	52-	17-	18
	③ 4	47	21	28.

	Eos	Poly	My	Lym	St. Ac.	Fruit & Loo.
B. Blood.	① 6.	54	23	17		
	② 5.	54	25.	16	"	Lo. r. Looffer.
	③ 3.	52.	23.	22	"	Fruit & Loo.

C Blood.	① 2	75	15	8
	② 3	70	17	10
	③ 3	73	15	9.

D Blood.	① 5	62	17	16
	② 4	59	20	17
	③ 8	56	18	18
	④ 8	59	20	18

E. Blood.	① 5	46	21	28
	② 3	47	23	27
	③ 3	48	25	22

F Blood.	① 3	65	20	12
	② 5	63	14	18.

Effect of injection of I Fibrinogen into Ear-vein of Rabbit. 6

1893		Exp 79.		Eos	Poly	Myel	Lym.	
Jan	20	2:30	W.B.C. A Blood.	8%	50%	20%	22%	8.500
		3:20	Injected 20ccs I.F.					
	25		W.B.C. B. Blood. Average of 3.	5%	53%	24%	18%	4.330
	26	12:0	W.B.C. C Blood "	3%	72%	16%	9%	10.300
		12:50	Injected 20ccs I.F.					
	27	10:30	W.B.C. D Blood ..	6%	59%	19%	16%	16.300
		12:0	Injected 20ccs I.F. 102.4					
	28	10:30	W.B.C. E Blood	4%	47%	23%	26%	10.500
		12:0.	Injected 20ccs I.F.					
	29.	2:0	W.B.C. F Blood					13.653.
			Injected 20ccs I.F.					
		p.m.						
		10:30	W.B.C. F Blood	4%	64%	17%	15%	24.420

benic acid -

A Blood

①	13	-	40	-	25	-	22	Fried & Esau
②	2	-	66	-	21	-	11	Esau & Loeffler
③	2	-	48	-	31	-	22	" "

No of W.B.C. in Control rabbit. Anthrax

7

Medium sized yellow 1 1/2 kilos

1893

Exp 80.

Eos Poly Mph Lym.

Date	Time	W.B.C.	Average - A. Blood	Eos	Poly	Mph	Lym.	Temp	
Jan. 20	12:0	W.B.C.	Average - A. Blood	6%	50%	26%	18%		
26	11:0	Injected Ice Broth cultivation (24 hrs at 35°C) Anthrax under skin.							
27	2:0	W.B.C.	B Blood.	60%	22%	18%		Temp: 105.2°F	
29	10:50 p.m.	<u>Rabbit died</u>							" - 95°F.

Disease lasted 84 hours.

Finis.

Injection of Peptone in dog. (A.E.W.)
Weight 7 Kilos.

8.

1893

Exp 81.

Jan^y 20

W.B.C. Extirpated one femur. Chloroform. Ether A

✓ 7.200

" 11.50 Injected 30 cc 10% Peptone in 0.75 NaCl.

12. Dyspnoeic reaction.

" 12. Enumerated W.B.C.s. Only found 1 or 2 Leucocytes
in the whole Haemocytometer slide.

12.5 Injected 30 cc Peptone.

12.15 Drew off blood and killed dog.

Extirpated Femur of other side,
made C & G preps of marrow before and
after peptone.

No eosinophilous granules in marrow
before peptone injection.

Finis

Rabies-

9.

Exp. 82: Rabbit.

1893.

- Jan. 16. Trephined rabbit and injected sub-durally at 1.0 pm a small quantity of emulsion made from spinal cord of rabbit, which died 15¹/₉₃,
22. Rabbit seems a little unwell.
23. Marked paralysis-
24. Paralysis almost complete:
25. Dead at 8 a.m.

P.M. No hemorrhages into intestine, or stomach
Placed small pieces of cord in Josa.
Remainder in glycerine.

Finis.

Vaccination against Cholera in Guinea Pigs.

Exp 83.

1893.

Jan 23.

Experiments to test strength of Cholera Exculted Virus.

Time	N ^o of GP's	Weight in Grams	Dose of virus injected into Peritoneum.	Condition 9 1/2 hours after injection	Condition 21 hrs after injection.
11. am.	1	381	1/6 of a tube	^{p.m.} 8.30 Morebrind.	8. am dead and cold
"	2	449	1/2 of a tube	Very ill	"
"	3	475	1/8 of a tube	ill.	"

Finis.

Experiments on Vaccination against Cholera II
in Guinea Pigs.

Exp 84.

Proposed test of efficacy of Cholera Vaccine.

A. Vaccinated Guinea Pigs.

1893	Time	No	Weight <small>in grams</small>	Dose at 12 noon	Temperature.		Died ^{or} Otherwise.	Remarks.
					8.45 pm	10.25		
Jan 23	12 noon	1	450	1/6 of a tube	99°6	95	at 1 pm. 24 th Jan alive	8 am. 25 th Jan. (1) See below DEAD
"	"	2	336	1/8 "	101°9	101°3	alive	alive alive 27 th
"	"	3	447	1/8 "	103°2		alive.	alive alive 27 th

B. Control Animals.

"	"	4	480	1/8 "	95°		Dead	
"	"	5	480	1/6 "	95°		Dead	
"	"	6	470	1/32	99°1	98°8.	Alive	DEAD (2) See below
"	"	7	370	1/4	100°7	99°3	Alive.	Alive alive 27 th .

- (1) Peritoneal Exudation is not a pure cultivation of C.B. The C.B. are very few in number and stain badly.
(2) Can only see a few C.B.

Finis

Vaccine in $\frac{1}{2}$ % Carbolic Ac. Sol.

Vaccination of G. Pig
against Cholera.

12

Exp 83.

1893	date	Time	No of G.P.	Weight Grams	Amnt. of 1 st Vaccine	Date of 2 nd Vaccination 2 nd Vaccine	Amnt. injected 2 nd Vaccination.
Jan ^y	17	5 pm	1	450	$\frac{1}{8}$ of a tube 16 $\frac{1}{2}$.	4:30 pm 20 $\frac{1}{2}$.	$\frac{1}{6}$ of a tube 8 $\frac{1}{2}$
"	"	"	2	336	$\frac{1}{8}$ - do -	" "	$\frac{1}{6}$ " 8 $\frac{1}{2}$
"	"	"	3	447	$\frac{1}{8}$ - do -	" "	$\frac{1}{6}$ " 8 $\frac{1}{2}$
18	11 am		4	?	$\frac{1}{6}$ do. 9 $\frac{1}{2}$		
"	"		5	?	$\frac{1}{6}$ do 9 $\frac{1}{2}$.		

Finis.

Look some of the clear plasma, considerable coagulation between
55 & 60°C Slight opacity in filtrate about 72°C.

Effect of injection of leech extract. (A.B.W)

1893.

Exp 86: Dog. Blk. Mongrel.

Date	Time		Eos	Pol	My	Lym	N ^o of W.B.C.	
Jan 4	24	1 pm.					9.000	
		1. 39p-						
		after ether & Chloroform, 50 cc leech Ext. injected into Femoral vein. Ext of 25 leeches 24 H ^o in 0.75 NaCl.						
		1. 41.						
		Sample 1 of blood drawn off: From Fem. Art. No sign of coagulation at 2.45 pm.						
		1. 48.					6.200	
		Sample 2. W.B.C. in 1 cmm:						
		1. 49.						
		Drew off circ: 80ccs Blood.						
		2. 30			43%	57%		
		Made c-g. prep ^s of Sample 2 blood.						
25		Very slightly opalescent plasma obtained from all vessels of blood. Cooled before and after addition of CO ₂ slight increase of opalescence.						
		1	Added to one part of Plasma - - - lime,				} No clotting in 24 hours. but In N ^o 4 clotting in 48 hours	
		2	do	Lime: Fib:				
		3	do	C. O ₂				
		4	do	I. F. - lime				
		A Very thin layer is visible above the embedded red blood corpuscles. Examined there fresh some granular material but not much.						
		Stained fresh with 0.5% Eosin. 34 med and 28 colored						
		W.B.C. in samp ^s of Bl: kept at cold temp: for 24 H ^o						5.000

Effect of injection of T Fibrinogen on rabbits.

Grey rabbit 2 kilos.

Exp 87. Continued from old book.

1893				Evs.	Poly	Myel	Lymph
Jan	26 th	11.0 AM	Injected 1cc Broth cultivation (24 hrs @ 35°C) of Anthrax under skin of back				
"	"	3 p.m.	Injected 20 ccs T.F.				
"	27	11 a.m.	Injected 20 cc. T.F.				
"	"	2 p.m.	Temp: 102° F. Made c.g.p.	58%	6%	36%	
	28	11 a.m.	Injected 20 ccs T.F.				
	30	12.0	Injected 10 cc of Strong T.F. Temp 102.6° F.				
	31	11.0 a.m.	Injected 10 ccs Strong T.F.				
Feb	1	"	Injected 10 ccs Strong T.F.				
	2	"	Injected 20 cc T.F.				

Effect of injection of Fibrinogen on Rabbits.

15.

Grey rabbit 1 1/2 kilos

Exp 88 cont^d from old book.

1893

Jan.	26	11 am	Injected 1cc Broth cultivation (24 hrs at 35°C) Anthrax under skin of back.
"		3 pm	Injected 20 ccs F.F.
"	27	11 am	Injected 20 ccs F.F.
		2 pm	Temp: 99.6°F.
"	28	11 am	Injected 20 ccs F.F.
"	30	12	Injected 10 cc Strong tissue fibrinogen Temp: 104.4°F.
"		6.0 pm.	Rabbit died.

Disease lasted 103 hours.

C.S. Specimen of Spleen, numerous eosinophilic granules in Poly: Leucocytes, no phagocytosis observed —

A Blood.	1.	13	—	58	—	16	—	13	
	2.	5	—	64	—	17	—	14	
B Blood:	1.	9		55	—	23	—	13	Σ 92
	2.	1/2		84	—	21	—	14	Σ 117
	3.	2		80	—	23	—	15	Σ 117
C. Blood:	1.	4	—	50	—	20	—	26	
	2.	3	—	55	—	28	—	14	
	3.	6	—	57	—	22	—	21	

only one count

Control Experiment. Normal Rabbit. No 2 Variety of W.B.C.

Exp 89.

1893					Eos	Pol	My	Lym.	No
Jan.	26	9.0 pm	W.B.C.	A Blood	9%	61%	17%	13%	8.200
	27	10.30 am	W.B.C.	B. Blood	4%	57%	22%	17%	6.700.
	28	10.30 am	W.B.C.	C Blood.	4%	53%	23%	20%	6.700
	29	2.30 pm	W.B.C.	D Blood.					7.215.
Feb	2	12.0 noon	W.B.C.						9.324

Finis.

Injection of Y. Fib. into ear-vein of Rabbits.

17.

1893

Exp. 90 -

Feb	2	12:30	Injected 6.5 ccs T Fibrinogen into ear-vein - Rabbit struggled and died instantly. Blood of hg: ventricle and aorta clotted.
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Finis.

A. Blood. ①. Os: ac Eos & L Rad spec: Nuclei stained well, Granules unstained
 ② " " F & E.. Poor do Cell protoplasm diffuse etc

B. Blood { Polysine - Nucleus very faintly stained, granules almost unstained & very sparse
 2 Basophilous W.B.C. seen in count of 46.

C. Blood Os: ac Eos & L: Rad, Eosinoph: granules do not show up at all well. Many Pol: appear pale
 ② " F & E. Rad spec do Granules very minute & sparse.

D. Blood.	①	2	62	14	22	os. ac	Eos & L	Poor	Granules badly stained.	} Much granular debris in these specimens.
	②	1	66	18	15	"	do do	do	do	
	③	0	74	12	14	"	F & E	do	do	
	④	2	71	14	13	"	do	do	do	

Effect on W.B.C. of injection into peritoneal cavity of G.P.
of Cholera culture: excalted virulence 18

1893	Exp 91.		Eosin.	Poly	My.	Lym.			
Feb 2	3.0 pm	W.B.C.	A Blood.	1%	86%	15%	12%	25,500.	
	3.30	Injected contents of 1 Agar tube 2 nd Vaccine into peritoneal cavity.							
	4.0	W.B.C.	B. Blood.	5%	0%	19%	28%	48%	1.700
	9.0	W.B.C.						500	
3	10.30	W.B.C.	C. Blood.	1%	66%	12%	21%	8.000	
	3.0		D. Blood	1%	68%	15%	16%	7.800.	
		Animal well -							

Finis

A. $\begin{matrix} 1 \\ 2 \\ 3 \end{matrix}$; $\begin{matrix} 9 \\ 11 \\ 6 \end{matrix}$ - 47 - 18 - 26
- 41 - 17 - 31
- 46 - 25 - 23

Injection of γ Fibrinogen into Ear-vein of rabbit.

19

1893

Exp. 92.

Feb.	2	p.m.	1.0	W.B.C.	A Blood. ✓	9%	45%	20%	26%	6,700
			1.30	Injected γ F. 5 ccs γ F in chlor: * 15 ccs Dist. water-						
			3.30	W.B.C.						✓ 6,000
			6.0	Dead.						

This animal was in a moribund condition all afternoon - circulation very much slowed, & blood darkly venous.

Finis.

99

A. Blood. $\begin{matrix} 1 - 0 - 59 - 14 - 27 \\ 2 \quad 0 - 60 - 17 - 23 \\ 3 \quad 0 - 57 - 18 - 25 \end{matrix}$

Effect of No. & Variety of W.B.C. by injection of Cholera.
into peritoneum of G.P.

1893

Exp 93.

				Eos	Poly	My	Squ		
Feb	4	11:0	W.B.C.	A Blood.	0%	59%	16%	25%	17.000
		12.15	Injected 2 tubes Agar into peritoneum						
		3.45	W.B.C.	B Blood	0%	15%	35%	50%	1.600
	5	2.0pm	W.B.C.	C Blood	0%	71%	10%	19%	4.200
	6	1d. am	W.B.C.	D Blood.	1%	73%	11%	15%	10.000.

Finis.

Effect on N^o & Variety of W.B.C in injection of Te Opii into peritoneal ²¹
Cavity of G.Ps.

1893.

Exp 94.

G.P. 280 grams in weight
Eos. Poly Myo Lym. N^o

Feb 7	AM 11.0	WBC	A Blood.	1%	73%	9%	17%	15.600
	PM 1.0	Injected 2ccs into peritoneum						
	1.30	W.B.C.						✓ 19.000
	3.0							✓ 5.500
	4.30	WBC. Blood from Fem. Vein contained huge N ^o of R.BCs. Blood dark. Blood will not flow from ear.						✓ 12.000

8	AM 10.30	Guinea Pig dead.						
		P.M. No peritonitis, some clear serous fluid in peritoneal cavity. Coils of small intestine mostly contracted, only a short portion dilated and reddened -						
		Blood from portal ^{system} space. WBC. 1359						✓ 30.000
		1 Sample contained clot						
		Serum from peritoneal cavity showed no leucocytes after staining						

Finis

A 45
B 41

B Blood. Stained very badly in both preparations -

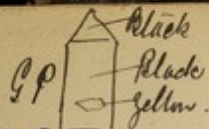
Effect on No. & Variety of WBC in injection of Te of Opium into peritoneal
Cavity of G.P.

Exp. 95.

1893				Eos	Poly	Myf	Lym.		
Feb.	8	AM 11.30	WBC	A Blood.	1%	53%	18%	26%	14.400.
		11.45	Injected 2ccs Te opii						
		PM 2.30	WBC. Blood flows readily from Ear.	B. Blood.	80%	16%	4%		34.800
		3.30	WBC. Blood flows readily						26.800
		4.30	WBC. — do —	C Blood.	76%	4%	7%		27.700
	9	1.30	WBC — do —						23.600
	10	AM 11.0	WBC	D Blood.	86%	8%	6%		40.000.
	13	9.0.	G.P. found dead.						
			P.M. No perforation. Piece of glass pipette, 2 inches long, found in peritoneal cavity. No signs of tuberculosis. Finis.						

A 84
B. 37

A 63
B. 49.



Effect of injection of To Opie into peritoneal Cavity of G.P.S.

330 Mas.

Exp 96.

1893				
Feb	9	AM 11.30	W.B.C.	✓ 30.500
			11.45 Injected 1ccm To Opie	
		P.M. 2.45	W.B.C.	✓ 18.200
			3.45 W.B.C. ^{A. 56} _{B. 65:}	✓ 24.200
			9.15 W.B.C.	✓ 16.700
	10	AM 12.0	W.B.C.	✓ 18.700.
	12	9.0	Found dead. ✓	

P.M. perforation of Intestine

Find

G.P. 350 Grams.

Effect on No of WBC. of injection into peritoneal cavity 24
of Sol of Carbolic Acid.

Exp. 97.

1893.				
Feb. 7.	9	Noon 12:0	W.B.C.	✓ 14.400
		p.m. 12:15	Injected 2 ccs 1-20 Ae Carbolic.	
		3:30	W.B.C.	✓ 4.200
		4:10	W.B.C. - RBC very scarce	✓ 3.500
		9:30	W.B.C. $\frac{13}{13}$ $\frac{30}{26}$	✓ 11.000
	10	p.m. 1:0	W.B.C.	✓ 9.700

Finis -

A
B
C

11
5

A
B

6
8

G.P. 350 Grams. Effect of injecting Sol of Quinine into peritoneal cavity of G.P. 25

Exp 98.

1893.				
Feb 9	9	^{p.m.} 12:30	W.B.C.	✓ 5.200
		1:15	Injected 2.5 ccs 10% Sol of Quinine	
		2:0	Died.	
		2:15	W.B.C. from rg: heart.	✓ 2.900
		2:30	do left do	✓ 2.800
		3:15	A Blood: Aorta, inf-vena cava & heart-blood coagulated.	

P.M. No inflammatory reaction in peritoneal cavity: Coils of intestine undilated, pale & partly whitened -

Finis.

A 60
B 90

A 14
B 12

A 19.
B 17.

A 22
B 23

A 28
B 27

A 47
B 49

Mar. 29th G.P. did -

P.M. Liver stomach and adjacent viscera matted
together - Tubercles in liver and spleen -
Spleen not enlarged.

Finis

Effect on No & Variety of W.B.C. of injection of Malta Fever into peritoneum of S.P.

Exp 99.

1893				Temp.	Eos	Poly	Myelops.	
Feb 7.	12	12:0 P.M.	W.B.C.	97.8?				25.000
		12:26	Injected into periton. cavity, suspension of M & M ⁺ in broth from 4 agar tubes.					
		1:30	W.B.C.		1%	25%	14%	60%
		2:15		100.7				4.329
		3:0	W.B.C.					6.000
		4:10		96.47?				
		4:30	W.B.C.					7.600
		5:0						
				I. first count.				
	13	12:0	W.B.C.	102.8	1%	70%	8%	21%
								9.500
	14	11:0 P.M.		102.6				16.000
		4:15		102.8				
	15	10:45 A.M.	W.B.C.	103.2				14.800
	16	12:0		103.0				
	19	11:30		103.0				21.800
	20	12:0		102.1				
	21	11:30		103.2				
	23	11:30		101.6				
	24	11:0		103.4				
	26	2:15		100.8				
Mar	1	10:15		701.2				
	4	12:0		100.8				
	7	1:0 P.M.		102.4				
				Lo Folio				

Effect of injection into p. c. of peritoneal fluid from G.P. dead
of Cholera.

27

Exp: 100. (arw.) G.P. used for Exp 84.

1893.

Jan	28	5.0	^{p.m.}	Injected about $\frac{3}{4}$ of total peritoneal exudation.
	29	8.0	^{a.m.}	G.P. found dead.

Blood contains extremely few leucocytes - All the Polynuclear have disappeared. There was no trace of coagulation of blood in heart.

Marrow - Few eosinophilous cells. These all small.
Peritoneal Fluid. No distinct phagocytosis.

Finis.

5.
5.7

1 count.

Effect of injection of Tuberculin in g. pig.

Exp. 101. (Arw.)

1893					Em	Poly	Myl	Lym	
Feb.	2.	a.m. 12:00	W.B.C.	A. Blood.	0%	81%	16%	3%	21,400
		p.m. 12:35	Injected 1/2 cc tuberculin hypodermically.						
		3:35	W.B.C.	B. Blood.					19,200
	3	a.m. 11:30	W.B.C.	C. Blood.	0%	75%	21%	4%	11,800

Finis

Injection of Suspension of Carminum in dogs.

(a.e.w.)

Exp. 102. Black Mongrel dog - same as Exp. 77 & 86.

1893	P.M.		Blood dotted.	Poly	Myel Lym.	
Feb. 3.	2:45	W.B.C.	Sample 1. 3' 0"	90%	10%	32,000
			" 2. 2' 0"			
			" 3. 1' 30"			
3-12.		Injected 2 grains Carminum in 50ccs Na Cl sol.				
3-15.		Finished injection.				
3-16.			Sample 4. 1' 30"			
			" 5. 3' 0"			
3-21.		W.B.C.		54%	28%	24% 1,400
3-24.			" 6. 30' 0"			
3-28.			" 7. 26' 0"			
3-35.			" 8. 15' 0"			
3-50.			" 9. 17' 0"			
3-55.		W.B.C. 10% Polymuc: contain Carminum		87%	7%	6% 7,800
		C.G. of spleen: show numerous granules in Poly: cells.				

Finis.

Effect of injection of Peptone on W.B.C. of Rabbit.

30

1893.

Exp. 103.

Feb 16.	P.M.	2:55	W.B.C. From clamped portion of Jugular.	8000
		2:59.	Injected $\frac{1}{4}$ cc. Peptone 10% into above doubly clamped portion.	
		3:24	W.B.C. From clamped portion.	8000
			Vein emptied, filled up & again clamped.	
		3:55	Injected $\frac{1}{2}$ cc 10% Peptone.	
		4:7.	W.B.C. circ.:-	8000
			Wanted to measure contents but found whole vein clotted solid.	

Finis.

A 41

B 38

Effect of addition of Peptone to oxalate Blood. Same dog as used in Exp 32. p 70 old book. 31

1893

Exp 104. (A.E.W.)

1893	Feb.	P.M.		
	17.	1.10	After chloro ether cut down on femoral artery and removed 3 samples of blood. in all 75 ccs.	
		1.20	Sample I. 22.5 ccs blood into 2.5 ccs, 1% Sol: oxalate:~	at 2.30 19.330
		2.5	" A 5 ccs oxalate blood + 3 ccs Na Cl (Normal).	
			" B. " " + 3 ccs 10% Peptone Solution in Na Cl. Sol.	
			A + B. Sample I placed at 37° C.	
		3.5	" A. not clotted: B clotted:	
			/	
		1.20	Sample II. 22.5 ccs blood into 2.5 ccs 1% Oxalate Sol.	17.560
		2.5	" A. 5 ccs oxal. blood + 3 ccs Na Cl. Sol.	
			" B. do + 3 ccs 10% Peptone in Na Cl.	
			A + B placed in incubator at 37° C.	
		3.5	" A. not clotted B. Not clotted.	
		3.10	" A. W.B.C. (Probably sh in 18.300.	8.800
		4.10	" B. " ?	9.100.?

Finis.

1.6
1.05

1.1
0.3

Effect of Quinine and Carmine on W.B.C. of Rabbit.

32

1893.

Exp. 105. (Arm)

Feb.	18.	11.46	Injected into stomach 1 gm Quinine Sulph.		
		1. 5	W.B.C.	A. Blood.	5.300
		1. 20.	Injected $\frac{1}{4}$ gm Carmine in 15 cc NaCl Sol. into ear-vein.		
		1. 30.	W.B.C.	B. Blood.	2.800
		2. 50	Killed Rabbit. Made C.G. of spleen which was very small & contained very few leucocytes. About 1 Polynuclear leucocyte in every 7 or 8 contains Carmine granules, but on the whole there appears to be very little phagocytosis.		

Finis.

1.4
1.6

0.3.
0.6.
1.23
1.9

0

0

Effect of injection of Arminin followed by Carminin into B.C.
in Rabbit

1893	P.M.		Exp 106.	Ev.	Pol.	Myel.	Lymph.	
Feb. 22.	2:20	W.B.C.					6.000	
	2:30	Injected into ear vein 10 grm. Arminin in 10cc NaCl.						
	2:50	"	"	"	$\frac{1}{8}$	"	Carminin in 15ccs "	
	3:5	W.B.C.	A. Blood.	0	30	5	65 1.800	
	4:5	"	B. "	4.	66	4	26 4.660	
	5:20	Killed Rabbit.	C. "	0	89	2	9	
			Spleen & Liver.					

Micros: Exam. of Blood, Spleen, etc.

A. Blood. Spec^s full of bacteria, Carminin particles
in debris, but not in leucocytes. 0%

B. " Carminin particles in debris.
" " Polynuclear leucocytes 6%

C. " " " in " " 2%

Carminin particles in leucocytes extremely small
& few in number.

Spleen: Polynuc: also containing Carminin ~~9%~~ 95%

Finis.

2.4
2.7

2.73
2.8

1.0
1.3

Effect of injection of Quinine + Carmine into ear-vein of Rabbit.

34

1893

Exp. 107.

Grey Rabbit.

Feb. 24	11:30	W.B.C.	A Blood.	10.200
	12:20	Ran in $\frac{1}{6}$ gm Quinine		
	12:35	W.B.C.	B Blood.	11.000
	1:40	Ran in 15ccs NaCl + $\frac{1}{3}$ gm Carmine.		
	2:15	Killed rabbit. W.B.C. ^{from J.V.C.}	C Blood.	5.200
		Prep of spleen -		

Finis

Effect of the injection on W.B.C. of Peptone in Dog. 35
 Large Fox terrier weight 11 Kilos.

1893

Exp 108.

Feb 7	28	12:30	W.B.C.	18:800
		1.0	Withdrawed 45 ces from Femoral. A. into oxalate 5. ces.	
		1.5	Injected 50 ces 10% Peptone in Na Cl. 0.75%	
		1.15	Drew off 45 ces into 10 5 ces 1% Oxalate. Drew off 50 cc into another vessel *	
		1.30	Commenced enumeration of W.B.C. in Peptone & Oxalate Blood In Oxalate Blood (compensated for dilution)	16:450
			In Peptone Blood.	2:200

Look the Peptone Blood * took 5 portions of 5 ces each.

Added to 1. .0.02 Acetic acid

2: 0.04 do

3: 0.06 do

4 . 0.08 do

5 . 0.1 do

All these clotted when immersed in a beaker of warm water. No 5 clots first and firmest -
 Control clots also but slower -

Finis .

Injection of Peptone and effect on WBC in Dog.
followed by injection of acid.

Large Fox terrier - 12 kilos -

36

1893

Exp 109. (AEM)

Feb. 28	1:0	WBC.	✓ 14,000.
	1:15	Drew off 45 cc blood, from Fem. Ar. into 5 cc Oxalate. WBC.	12,600
	1:16	Injected 60 cc of 10% Peptone in N.A.C.	
	1:24	Drew off 45 cc blood into 5 cc Oxalate. WBC.	1,200

Finis

Effect of the injection of Peptone and H.C.L. acid into dogs. 37
Small Fox Terrier - w^t. 12 lbs.

Exp 110

Injected 30cc 10% Peptone
Withdraw sample of blood. 22cc.

Took 4 portions of 5cc each

No I + 0.1cc of 1-1000 H.Cl.

II + 0.2cc " "

III " 0.3cc " "

IV " 0.4cc " "

None of these samples clothed in 24 hours.

Injected 25cc of 1-1000 HCl into Fem. Vein.

Blood taken after this did not clot in 24 hours.

Dog died 1 hr. after operation.

P.M. 16 hrs after death. Heart and all large
veins found filled with solid clot.

Effect of the injection of Peptone and HCl, acid on 38
Blood in dog - Fox terrier about 5 kilos weight.
Exp III

No result.

Exp. 115

0.25 cc of 1% Peptone, introduced into 0.5 cc blood contained in clamped portion of jugular vein of dog does not prevent clotting - In the contrary the vein was found firmly clotted after 10 minutes -

Finis.

Effect on No and Var: of injection of Anthrax products. Rabbit. 40

1893

Exp 119.

Apl.	14	p.m.	2:0	Injected into Ear vein 5cc of Anthrax culture in broth, which had been grown 3 weeks at 37°C and had been filtered through a Chamberland.					
				No symptoms on or after injection.					
			1:0	W.B.C. before injection. A Blood	0	60	10	30	8.400
			2:20	W.B.C. 20 minutes after injection. B	0	77	16	7	5.000
			3:15	W.B.C. 1/4 hr after injection. A	0	60	10	30	2.800
15		A.M.	10:30	W.B.C. B	0	77	16	7	31.400
		P.M.	2:0	W.B.C. Temp 101.4 F. C	0	76	23	1	24.800

Animal off feed.

41

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Most of the RBCs have a speck or spot stained deeply in them. ③

Effect on No. 2 Variety of W.B.C. of injection of Cholera into Peritoneum of *D. pigs.* 77

Exp 150.

1893.				Leuc.	Eos	Poly	Myel	Lym.		
Feb. 12	p.m.	12:45	W.B.C.	A. Blood	1%	76%	16%	7%	27,800	
		12:50	Inject: about 2ccs of Serum from last GP. 2 pass 8 $\frac{2}{3}$							
		2:30	W.B.C.	B. Blood	0%	23%	8%	69%	5,300	
		4:0	W.B.C.						4,300	
		4:20		Temp.	-94°F					
		5:0	Died -							

P.M. Organs tubercular.
Effusion blood stained.

Finis

A B.
59. 70.

Effect on No. WBC. of injection of peptone into periton: Cav.
of Rabbits

78

1893

Exp. 151.

Feb. 14.	2.15	WBC.	A. Blood.	✓	1	64	10.	25.	21.500
	2.45.	Injected 2 grams Peptone in 20ccs Aq. Distill.							
	3.0.	WBC.							✓ 23.000
	4.0.	"							✓ 16.300.
	5.0.	"	B. Blood.	✓	0	73.	15	12.	9.600.
<hr/>									
15	11.0.	WBC.							✓ 16.150
	11.45.	Injected 2 grams Peptone. 20ccs Salt Sol.							
	2.30.	WBC.							✓ 4.000
	8.30	"							✓ 5.700
<hr/>									

Finis

A 111
B. 72
C 60

A 56
B 58

Effect of injection of Tuberculin into periton: cavity
of G.P.

79

1893.

Exp 152.

Feb. 15	1.0.	W.B.C.				✓ 27.000.
	1.20.	Injected 1cc Tuberculin.				
	8.45.	Animal very ill. Blood from Fem Ven.				✓ 19.000
16	8.0	Animal dead				
		P. M. Organs highly tuberculous				

Finis.

A. 39
B. 39.

A. 21
B. 19.

A. 7
B. 8
C. 30.
A. 1.7
B. 19.

Effect of injection of Carmine into ear-vein of Rabbit.

80.

1893.

Exp 153

50 Poly Nuf. Lym.

Feb 7	20	12:30	WBC.	A Blood	1	60	13	26	13.000	
		11:50	Injected 15 ccs Carmine suspension $\frac{1}{5}$ gm.						1	
		11:56	WBC.						6.700	
		12:15		B Blood:	4	44	20	32		
		2:50	WBC.						5.900	
		3:0	WBC	C Blood	4	80	2	14	7.200	
		3:25	Rabbit killed $3\frac{1}{2}$ hr. after injection							

P.M. Spleen moderate in size.

Spleen coverglass prep?

Numerous Polynuclear cells, some of which contain Carmine granules.

Eosinoph. Cells. Several seen, none contain Carmine granules.

Polynuclear cells containing Carmine granules 26%.

Several Polynuclear cells do not contain eosinophilous granules.

B. Blood: ~~16~~ Granules of Carmine found in leucocytes. 16%.

C Blood. Contains Carmine particles in Polynuclear cells - of these

Poly: cells 12% contain Carmine =

2.8
2.55

8.4
8.4

Effect of injection of Carmine into ear-vein of Rabbit.
 Old test. fib. rabbit

1893

Exp 154

Eos Poly Myel Lym

Feb 24 11:30 W.B.C. A Blood. 1 52 7 40 10.700

F 12:40 Ran in 16 ccs Salt Solution:
 12:55

3:10 Ran in 15 ccs Carmine ($\frac{1}{8}$ gm) Suspension. 3 34 11 52 5.600

3:45 Killed. B Blood.

Spleen

B. Blood - Polynuc: cells cont^d Carmine. 28%.

Spleen - do do 30%.

Finis.

Effect of injection of Leech Extract on W.B.C. of Rabbit.

1893

155.

Mch. 2	A.M. 11:0	W.B.C.	A Blood.	1	41	11	47	9.350
	11:40	Injected ^{5.ccs} Leech Ext. = 3 Leeches at 42°C						
	12:0	W.B.C.	B. Blood.	2	47	6	45	5.350
	1 ^{P.M.} 1:0	W.B.C.	C Blood.	1	44	5	50	2.500
	4:0	W.B.C.	D Blood.	1	62	5	32	13.000
	10 ^{P.M.} 10:0	W.B.C.	E Blood	0	72	9	19	15.100
4	3:0	W.B.C.	F Blood					8.800.

Finis.

3.0
2.4

2.6
1.26
- 75
3 | 40.1
1.3.

Effect of the injection on to B.C. of Carmine & Chloroform. 83
Blk Rabbit. in Rabbits.

1893

Esc 156

			Co	Poly	M	L	
Apr 6	2:15	A Blood.	60%			40	10.800
	2:30	Chloroform for $\frac{1}{2}$ hour.					
	3:15	Carmine suspension $\frac{1}{8}$ gram in 15 ccs.					
	3:15	Chloroform continued					
	3:30	B Blood					5.000
	4:15	C Blood.	63%			37%	5.200

Finis

1113
6.7
2.6
1.9

A. 1.7 }
B. 1.5 }

Effect of the injection on W.B.C.
of Carmine ~~in Rabbits~~ in Rabbits.

Control

84

Blk Rabbit.

1893

Esop 157

Apl	6	2.25	A Blood.						7.600
		3.0	15 ccs Carmine suspension $\frac{1}{8}$ gm.						
		3.15	B. Blood						6.400
		4.0	C Blood						1.500

Finis

R.A.C. 8.500.000

N^o Wright's count. 2. 81. 16. 1

A. 2.65 }
B. 6.50 }
A. 4.6 }
B. 4.3 }

Effect on No 2 Variety of W.B.C. in dog. after injection of
 Peptone and ligation of thoracic duct. Dog. Splenulees

1893

Exp 158.

April 7	10:30	W.B.C. $\frac{3.8}{3.5}$	H.R.B.C. 3%	A Blood.	2	78	10	10	14:200	
	12:35	Injected into Jug V. 4 grms Peptone in 40cc NaCl. .75.								
	12:50	W.B.C.							6:660	
	12:55	Tied Thoracic duct. <u>Lymph C.S.</u>								
	1:0		- do - 11%	B. Blood	2	55	9	34		
	2:0	W.B.C. $\frac{1.95}{1.91}$	- do - 19%	C Blood	1	55	5	39	7:720	
	2:45	<u>Lymph C.S.</u>								
	3:0	W.B.C. $\frac{2.2}{3.0}$	- do - 20%	D Blood	2	62	5	31	10:400	
	4:20	W.B.C.							18:300	
	8:45	W.B.C.	- do - 2%	E Blood	2	77	6	15	17:800	
	8:45	Dog moribund. Killed with chloroform. blood from Innominate V.								
	12:55	Lymph from Thoracic duct.				0	2	11	87	
	2:45	do do				0	1	10	89	

Rabbit Normal. Variety of cells in spleen, liver, & mesentery. Control.
 Weight. 2 kilos.

159.

1893.					Co	P.	M.	L.		
apl	10.	12.50	W.B.C. ²⁹ ₂₇		A. Blood.	2	49	14	35	9.300
		3.0	Killed rabbit. Preserved Sp. liv. & mes.							
					A. Blood	186	4557	1302	3255	

Rabbit after pepton. Variety of WBC. in spleen, liver & mesentery.

160.

1893

Apr. 10

P.M.

1.0

WBC. $\frac{28}{25}$

A. Blood.

3

53

16

28

8.800

2.40. Injected into ear vein 20ccs 10% Pepton.

3.15.

WBC. $\frac{25}{25}$

B. "

4

25

14

57

8.300

4.30.

"

C "

6

21

12

61

3.700

6.30.

"

$\frac{7}{8}$

D "

2

63

7

27

2.500

7.0. Killed. Sp. Liv. & Mes: into Flemming
Mes: Os. Acid vapour.

A. Blood.

264

4664

1408

2464

B. "

332

2075

1162

4731

C "

222

777

444

2257

D. "

50

1600

175

675

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Anthrax: in Rabbits: Exp: 78. 80

St. Thomas 2nd July 1711

A
B
C
D
E
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I
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L
M
N
O
P
Q
R
S
T
V
W
X
Y
Z

a Cholera. Vaccination against in G.P. Exp 83-84-85

Cholera. Subject: into Peritoneal cavity in G.P. Exp. 91.93.100.150.

Carbolic Ac: " " " " " " 97.

Carmine. " " Virus in dogs. " 102.

C D E F G H I K L M N O P Q R S T V W X Y Z

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been Photographed.**

Seech extract: Inject.: of. in dogs. Exp 86.

Malta Fever. Injection of dead into p. cav. of G. P. Sep. 99.

L

M

N

O

P

Q

R

S

T

V

W

X

Y

Z

Normal. Rabbit's blood: Exp 89.

Opium: Ic. of. Effect on No. War. of lo.B.C. inject. into p. cav. of S.P. 94. 95. 96.

N

O

P

Q

R

S

T

V

W

X

Y

Z

Peptone: Inj: into dogs. Exp. 75-81.

Lumini: Injection into periton: cav. of G.P. Exp. 98.

P

Q

R

S

T

V

W

X

Y

Z

Rabies: in Rabbits. Exp: 82.

Starvation. Effect of, on the W.B.C. of dog. Exp 76..77..77.

"

"

Es.

R

S

T

V

W

X

Y

Z

Tuberculin. Injection into G. pig. Exp 101.

Tissue Fibrinogen. Injection of boiled sol. into ear-vein of R.s. Exp. 74, 79, 87, 88, 90, 92

T
V
W
X
Y
Z

W X Y Z

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