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Creator(s)
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Title
Laboratory Notebook - Bacteriophage Experiments and Infectious Diseases: Part 2

Date
1932-1939

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Access: Open

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1936.

Venus content of membranes of different ages:

1st 2.1.  Tunicate + 100. +1, +2 100. 2, +1 10000 ++ 5 x 10^6

Ad. (-) 6.1.  10^3 Pect. + (Red maris) 2x +

3th 11.1.  10^7 7, + 10^5 200. 2, +1 2.1 10^9 2x 10^6

Ad. 15.1. (39) 10^7 2, 10^5 7, 20. 4 x 10^5

Ad. (39) 12.1.  10^8 40. 5 x 10^4

3^rd 27.  20.1.  10^9 0, 0. 10^8 14 12 + 10^7 100 + 2 x 10^5

3^rd (37) 2.1.  10^7 424 204 10^6 200 = 200 + 4 x 10^5

Neutralization Expt.

1st: Venus Pect 10.10 10^6 10^7 10^8 Saline

Tunicate 0 0 10 30 260 ++

100 0 0 59.5 243 250

1000 0 0 6.1 245 260

2nd: Venus Pect 11.10 10^6 10^7 10^8 Saline

Tunicate 0 0 30 44 44 ++

10 0 0 44 ++

100 0 0 2 10^6 200 ++

4 x 10^5

1^st trial effect after. RT x dark. 283x.

V. R. 5/120 3/120 3/120 Saline

0 0 100.

V. R. 15 12 100 ++ 8, 8, 10.

250 61 10.

20 22 10 0 0 (39) 61 +

25.31. 0, 7.

2^nd trial effect. Similarity except. Codex = Pink dil. 5 from N.4, codex same mixture.

10 + 3/100 4, +3, 3. 4 1 2 3 20 3 2 3 2 1 7.

Codex 1000. 61-1 200 66.

1000 0 6 10 +, 12 9 000.
3rd day effect. 187. 5 tissues kept with grapse.

Contrasts created in saline from stock before and again after rape.

\[
\begin{align*}
\frac{\%}{10} & \quad \frac{\%}{100} & \quad \frac{\%}{1000} \\
\end{align*}
\]

**Table**  
<table>
<thead>
<tr>
<th>6, 7</th>
<th>9, 11</th>
<th>13, 4</th>
<th>4, 8</th>
<th>26, 35</th>
<th>16, 12</th>
</tr>
</thead>
</table>

Contrast: 174

\[
\begin{align*}
100 & \quad 70 & \quad 30 & \quad 20 & \quad 10 & \quad 5 & \quad 1 \\
\end{align*}
\]

Survival of Spotted mice in refrigeration:

19-2. 1/100 dilutions of above (Aug. 49 to 90 + or 10x (6.7 to 14))

\[\text{Sacrifice:} \quad 16 \quad 25\% \quad 28 \quad 78, 49 \quad 24 \quad 72, 20\]

**Graph**

25.2. Sudden abolition

\[\text{11/100:} \quad 10/100 \quad 1/100 \quad 1/1000 \quad 1/10000 \quad 1/100000 \quad 1/1000000 \text{readings.}\]

**Graph**

**11/2. Illustration of Y-AV connection**

\[\text{11/2.} \quad 26/2. \quad 11/10 \quad 1/100 \quad 1/1000 \quad 1/10000 \quad 1/100000 \quad 1/1000000 \quad \text{Readings.}\]

**Graph**

2.2. Lines of Activity of Spotted Mice.

\[\frac{1}{100} \quad \frac{1}{1000} \quad \frac{1}{10000} \quad \frac{1}{100000} \quad \text{Saline.}\]

\[\begin{align*}
\frac{1}{100} & \quad \frac{1}{1000} & \quad \frac{1}{10000} & \quad \frac{1}{100000} & \quad \text{Saline.} \\
\frac{1}{10} & \quad \frac{1}{1000} & \quad \frac{1}{10000} & \quad \frac{1}{100000} & \quad \text{Saline.} \\
\frac{1}{1000} & \quad \frac{1}{10000} & \quad \frac{1}{100000} & \quad \text{Saline.} \\
\end{align*}\]

\[\begin{align*}
\frac{1}{10} & \quad \frac{1}{1000} & \quad \frac{1}{10000} & \quad \frac{1}{100000} & \quad \text{Saline.} \\
\frac{1}{100} & \quad \frac{1}{1000} & \quad \frac{1}{10000} & \quad \frac{1}{100000} & \quad \text{Saline.} \\
\frac{1}{1000} & \quad \frac{1}{10000} & \quad \frac{1}{100000} & \quad \text{Saline.} \\
\end{align*}\]

**Graph**

0.1: 0.25%, 0.5: 0.42%, 1.2: 0.0%, 4-4.5%, 0-0.5%, 0.0-0.5%, 0-0.5%, 0-0.5%, 0.1-1.0%

\[\begin{align*}
0.15 & \quad 0.15 & \quad 0.15 & \quad 0.15 & \quad 0.15 & \quad 0.15 & \quad 0.15 & \quad 0.15 \\
\end{align*}\]

**Graph**

**Note:** Directly imparts to the human observation over considerable range.

Tissue kept 0-10% except during manipulations.
This effect experiment

Initial 0° + Sept 16' at 0° glucose 2 hrs. RT.

<table>
<thead>
<tr>
<th>Initial 0°</th>
<th>15'</th>
<th>2 hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10°/1000</td>
<td>10°/100</td>
<td>6000</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>10°/1000</td>
<td>18°/10</td>
<td>2-2.5’</td>
</tr>
<tr>
<td>10°/10</td>
<td>3-6/60</td>
<td>18°/10</td>
</tr>
<tr>
<td>10°/10</td>
<td>3-6/60</td>
<td>18°/10</td>
</tr>
<tr>
<td>10°/10</td>
<td>3-6/60</td>
<td>18°/10</td>
</tr>
</tbody>
</table>

Preparation in vivo

1st. Inact + rennin Fae 1:12 30° RT then to 55°.

2nd. Acid all酶 1 speed 1 fast frame.


4th. 2 dead. H.E + HH+ Both showed numerous gains on 2nd chamber much lower than would be found with 3rd enzyme.

Conclusion of these in Enzyme Blood.

These blood did 1:2 in culture. From 25° to 55°. Blood supernatant.

<table>
<thead>
<tr>
<th>Initial (1/2)</th>
<th>1:20</th>
</tr>
</thead>
<tbody>
<tr>
<td>These blood</td>
<td>9/5 5/4</td>
</tr>
<tr>
<td>Supernatant</td>
<td>5/13 5/4</td>
</tr>
<tr>
<td>0’ (acid at 3rd and 1st vague signs)</td>
<td></td>
</tr>
</tbody>
</table>

Action of F1 serum.

6/12’.

Action of serum 1:3.

1/3’.

Serum end. 1/9’.

1/10’.

1/20’.

1/60’ 1/100’


10°/10.

10°/20.

10°/100.


<table>
<thead>
<tr>
<th>Name</th>
<th>2nd Reading Ink</th>
<th>Average Reading Ink</th>
<th>x Dilution</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANCKE</td>
<td>0.20</td>
<td>0.20</td>
<td>50</td>
</tr>
<tr>
<td>MAY</td>
<td>0.00</td>
<td>0.00</td>
<td>50</td>
</tr>
<tr>
<td>TRANTER</td>
<td>3.3</td>
<td>1.000</td>
<td>1000</td>
</tr>
<tr>
<td>DIMMER</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
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<tr>
<td>SIZER</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
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<tr>
<td>HALE</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
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<tr>
<td>REVLOAD</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
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<tr>
<td>FORGES-REYCH</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
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<tr>
<td>VERTHEM</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
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<tr>
<td>MILLERMAN</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
</tr>
<tr>
<td>PAXTON</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
</tr>
<tr>
<td>MOON</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
</tr>
<tr>
<td>HUGH</td>
<td>0.00</td>
<td>0.00</td>
<td>500</td>
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<tr>
<td>BANKS</td>
<td>0.00</td>
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<td>500</td>
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<td>0.00</td>
<td>500</td>
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<tr>
<td>PERT, Evang.</td>
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<td>0.00</td>
<td>500</td>
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<tr>
<td>BROWN</td>
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<td>0.00</td>
<td>500</td>
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<tr>
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<td>0.00</td>
<td>500</td>
</tr>
<tr>
<td>MORGAN</td>
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<tr>
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<td>0.00</td>
<td>500</td>
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<tr>
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<td>500</td>
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<tr>
<td>IHR (Online)</td>
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<tr>
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<td>500</td>
</tr>
<tr>
<td>FIOLENN</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>FIOLENN 2</td>
<td>2.00</td>
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<tr>
<td>FIOLENN 3</td>
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<td>FIOLENN 4</td>
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<td>4.00</td>
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<td>5.00</td>
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<td>0.00</td>
<td>5.00</td>
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<tr>
<td>STEWART</td>
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<td>0.00</td>
<td>5.00</td>
</tr>
<tr>
<td>RONIE</td>
<td>0.00</td>
<td>0.00</td>
<td>5.00</td>
</tr>
<tr>
<td>FIOLENN 5</td>
<td>0.00</td>
<td>0.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>
Summary of 51 individuals with whom contact was made. Oct '26 - Aug '27.
This in terms of 1922-2000.

0 - 34: 9
10 - 100: 18
100 - 1000: 21
> 1000: 3
### Action of *Staphylococcus aureus* 1712 on Egg P.4

<table>
<thead>
<tr>
<th>Solution</th>
<th>V</th>
<th>%10</th>
<th>%100</th>
<th>%1000</th>
</tr>
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<tbody>
<tr>
<td>1712</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1712/100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1712/1000</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>700</td>
<td></td>
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</tbody>
</table>

### Action of *Staphylococcus aureus* 1712 on C.K.

<table>
<thead>
<tr>
<th>Solution</th>
<th>V</th>
<th>%10</th>
<th>%100</th>
<th>%250</th>
</tr>
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<tbody>
<tr>
<td>C.K.</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
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</table>

### Action of *Staphylococcus aureus* 1712 on F.M.B.

<table>
<thead>
<tr>
<th>Solution</th>
<th>V</th>
<th>%10</th>
<th>%250</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.M.B.</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
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</tbody>
</table>

### Percentage reduction with varying serum concentration of F29.

<table>
<thead>
<tr>
<th>Solution</th>
<th>V</th>
<th>%10</th>
<th>%50</th>
<th>%250</th>
</tr>
</thead>
<tbody>
<tr>
<td>F29</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2000</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Summary

- V controls: 0.0, 0.0, 0.0, 0.0
- %10: 0.1, 0.1, 0.1, 0.1
- %100: 0.1, 0.1, 0.1, 0.1
- %1000: 0.1, 0.1, 0.1, 0.1

### Conclusion

<table>
<thead>
<tr>
<th>V</th>
<th>%10</th>
<th>%250</th>
</tr>
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<tbody>
<tr>
<td>100</td>
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<tr>
<td>1000</td>
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### Summary of Action of *Staphylococcus aureus* 1712 on C.K.

<table>
<thead>
<tr>
<th>Solution</th>
<th>V</th>
<th>%10</th>
<th>%250</th>
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<tbody>
<tr>
<td>C.K.</td>
<td>100</td>
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<tr>
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### Summary of Action of *Staphylococcus aureus* 1712 on F.M.B.

<table>
<thead>
<tr>
<th>Solution</th>
<th>V</th>
<th>%10</th>
<th>%250</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.M.B.</td>
<td>100</td>
<td></td>
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<tr>
<td>1000</td>
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</tr>
<tr>
<td>2000</td>
<td></td>
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</tr>
</tbody>
</table>
Immunization with Embryos

1.5. Egg 3609 emu. 160 to Fowl A) and 16 more embryos.

Fae 1027 (2ens.) Fae 1014 (2ens.) Fae 1044 (2ens.) Fae 1049 (2ens.)

Three tested 3 hours after 24.30.

Fae 4. 1028 (1ens.) Fae 1046 (0ens.) Fae 1014 (1ens.) Fae 1028 (0ens.) Control Fae 1046 (2ens.)

Fae at 24 tested 14, (10d)

None tested on eggs. Results show 74 of remaining will live 1/10 - 1/100.

Fae 0 - 0.157 - Fae 0 - 0.08 - 0.9 - Fae 0 - 0.08 - 0.07 - 0.7

Fae 0 - 0.08 0.7 - Fae 0.7 - 0.08

Killed 3.

2. Died at 5 days, showed 0.12. Light bruise

Killed at 24. All remained healthy for 7 days. Killed showed no sequel.

None on an old area. Controls add. k = 1.2 k = 0.7 + a = 1 - 1.2.

N

Determination of the method

[Formula and calculations]

Effusion of embryos in CaS + 10% H3 saline

Early - 1/200 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5

1/1000 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5

Preservation and Wine effect (Dilutions in 10% H3S). S.P. versus [71]


Fae 100 + Y 0.25 10% 1/10 0.25 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10


48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9

48 hr. 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9
### Determination of Bovine Serum Albumin (BSA) in Milk

**S. P. mm: 6.0**

<table>
<thead>
<tr>
<th>Concentration</th>
<th>mm</th>
</tr>
</thead>
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<tr>
<td>1/1000</td>
<td>9%</td>
</tr>
<tr>
<td>1/100</td>
<td>12%</td>
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<td>1/10</td>
<td>17%</td>
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<tr>
<td>1/1</td>
<td>24%</td>
</tr>
<tr>
<td>1</td>
<td>29%</td>
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**Reagents**

- **Enzyme:** Pepsin
- **Buffer:** 0.1 M Tris-HCl, pH 8.0

**Procedure**

1. **Preparation of Enzyme Solution:** Dissolve 2 mg Pepsin in 1 ml of 0.1 M Tris-HCl, pH 8.0.
2. **Incubation:** Incubate a solution containing BSA and the enzyme at 37°C for 2 hours.

**Results**

- **Absorbance** at 280 nm
- **Specific Activity** (SA) = Absorbance / Concentration

### Results

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Absorbance</th>
<th>Specific Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1000</td>
<td>0.95</td>
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</tr>
<tr>
<td>1/100</td>
<td>1.25</td>
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<td>1/10</td>
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**Remarks**

- **Enzyme activity** is determined by measuring the absorbance at 280 nm after incubation.
- **Specific Activity** increases with increasing concentration of BSA.

### Summary

- **BSA in Milk:** Calculated from the absorbance at 280 nm.
- **Pepsin Activity:** Measured by the decrease in BSA concentration.

---

**Note:** The calculations and results are based on the provided data and should be verified with the original experiments.
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**Compared with 36° and 37°**

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**Brackets in NHS saline**

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**Rhesus screen**

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**Blood group**

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<td>Hb</td>
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**10000 / 32%**

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**20000 / 32%**

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**Conclusion**

- The test result at 36° was specific, but only one was completely typical.
- Blood group found.
- Rhesus screen.
- Additional tests.

**Detailed egg absorption**

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**Detailed egg absorption**

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**Final result**

- Positive
- Negative
- Relevant data.
Attempts to establish common with rushes.
15/4/30: drawings to 1st day of second batch in E.I.

mM to eggs: 1/949 abnormal slender crushed in places. Some were in March 2569.

Agar, 2nd 24+1

3rd 28+4

4th 38+4

5th 32+4

6th 24+1

7th 19+5

8th 18+3

9th 23+5

10th 34+5

11th 9+6

Some died down with dashory diet.
Stephia microseris present in active material.

Undetected eggs also gave 2 mm. membrane.
To compare two different S.P. pH changes.

1.  SP1: 7.15
    SP2: 6.87
    From one of 20000 cases each year.
    Does NHS take.
    1. 10.45 10 R T,
        8%
        9%
        Combined 10%

SP1 + Fa2: 0.9
90% 7% 9%
2/0 2/0 (46)
(1.660)

SP1 + Fa2: 1/10
14% 14 9%
1/10 9%
(1.600)

SP1 + Fa2: 0.9
90% 7%
90% 9%

Comparison of CaS + NHS Table as derived for remains.

2. Same SP1, emission used as above 20000 nd old.

CaS 20000.

Quot CaS/10000.

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<tr>
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</tr>
<tr>
<td>2</td>
<td>1/4 1/4 1/7 7/7</td>
</tr>
<tr>
<td>3</td>
<td>7/6 2/0 1/5</td>
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<td>4</td>
<td>1/3 1/1 1/5</td>
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<tr>
<td>5</td>
<td>1/3 1/1 1/5</td>
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</table>

CaS 5000.

3. Fa2/10 20 CAs 1/10

CaS 5000.

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<td>5</td>
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Calcic 5000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

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Calcic 10000.

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Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.

Calcic 10000.
Sweet cream dilutions in mix & eggs.
10.1 M. Faz. 5000. 1H. 4000. (Vince made)
10.2 M. Cheer up mix together with Faz.
   6000 final figure.
21st M. Faz. 5000 (-2000) was well.
21st M. Faz. 5000 1H. 4000.
   1H. 5000 124. 1H. 4000. 21.3. 5000/1H.
21st. 1H. 2000. Vince worked on them up to 11.00.
   Faz 20000
   1H. 1500.
   6.5 1H. 1000-
T.5, 26. Faz. 2000. 1H. 2500 at 100
2.6.84. Faz. 4000. Faz. 4000 1H. 2000.
Faz. 4000
Faz. 20000

Summary

60 110 2000 1000. 60% 17%

Eggs

Farm Business of Johnson's at 9 week interval.

<table>
<thead>
<tr>
<th>Service</th>
<th>K</th>
<th>V</th>
<th>Y 0</th>
<th>12/00</th>
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<tbody>
<tr>
<td>Eggs</td>
<td>K</td>
<td>1/4</td>
<td>1/4</td>
<td>0 00140 140 2000</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>1/4</td>
<td>1/4</td>
<td>0 000</td>
</tr>
<tr>
<td>Eggs</td>
<td>K</td>
<td>1/4</td>
<td>1/4</td>
<td>0 000</td>
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<tr>
<td></td>
<td>M</td>
<td>1/4</td>
<td>1/4</td>
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Farm with same manner.

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<th>500</th>
<th>820</th>
<th>0 15 10 (5)</th>
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<tr>
<td>MI</td>
<td>2000</td>
<td>0.07</td>
<td>0.07 (6)</td>
</tr>
<tr>
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<td>0.07 (6)</td>
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<td>0.07 (6)</td>
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<tr>
<td>MI</td>
<td>2000</td>
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<td>0.07 (6)</td>
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<tr>
<td>Percentage K+</td>
<td>11.6%</td>
<td>12.8%</td>
<td>17%</td>
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<tr>
<td>pH</td>
<td>5/100</td>
<td>6/100</td>
<td>7/10</td>
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This is a page from a notebook with handwritten data and calculations. The table shows various measurements and calculations related to a study or experiment. The page includes units of measurement and numerical data. The handwriting is legible but requires careful reading to understand the context. The page also contains references to other data points and calculations, indicating a continuous data collection or experimental process. The page is part of a larger notebook or experiment log, with entries spanning multiple pages. The notebook appears to be used for recording scientific or clinical data, possibly related to a biological or chemical study. The data includes measurements in various units, such as pH values and percentage concentrations, indicating a focus on quantitative analysis.
6.7.56. Saline injection at 31° + 34°.

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<td>12°</td>
</tr>
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<td>12°</td>
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<td>6</td>
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<td>15</td>
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<tr>
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PD. Neutralisation & Reaction paper.

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<th>%/10000</th>
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<td>V/10</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V/100</td>
<td>9.4</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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20.7. Pure effect + dilution reaction mixture.

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</tr>
<tr>
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<tr>
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22.7. Reaction mixture after 1 hr.

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<tr>
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Conduct 10° 24.2. m.
Comparative observations of fuel area in Tuia & Fogo.

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<th>Fogo</th>
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<tr>
<td></td>
<td>l.m.</td>
<td>l.m.</td>
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<td>10.25</td>
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<table>
<thead>
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<th>Fogo</th>
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<td>F1</td>
<td>0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>F2</td>
<td>0.02%</td>
<td>0.02%</td>
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<td>F0</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>I1A</td>
<td>2000</td>
<td>2000</td>
</tr>
<tr>
<td>DL</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>FNB</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>AHK</td>
<td>0.25%</td>
<td>0.25%</td>
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<table>
<thead>
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<th>Fogo</th>
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<tbody>
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<tr>
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<tr>
<td>FNB</td>
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</tr>
<tr>
<td>AHK</td>
<td>0.25%</td>
<td>0.25%</td>
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</tbody>
</table>

Note: The values for Tuia and Fogo are given in percentages and numbers, indicating the area measurements and comparisons.
Absorption of Radiant Energy

\[ \frac{8600 \text{ V} + 8600 \text{ V} + 8000 \text{ V}}{2} = 8000 \text{ V} \]

\[ \frac{15000 \text{ V}}{2} = 7500 \text{ V} \]

\[ \frac{18000 \text{ V}}{2} = 9000 \text{ V} \]

\[ \frac{18000 \text{ V}}{2} = 9000 \text{ V} \]

\[ \frac{18000 \text{ V}}{2} = 9000 \text{ V} \]

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\[ \frac{18000 \text{ V}}{2} = 9000 \text{ V} \]

\[ \frac{18000 \text{ V}}{2} = 9000 \text{ V} \]
Second absorption except end.

Tissue. M. 100 100 100 100 100 12 24

Abs. 7. 0.02 0.03 0.01 0.01 0.01 0.01 0.01 0.01 0.01

EM. 2.21 4.44

Abs. 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2

210. Reaction time of B. on egg. 12 0.12 12 0.12

B + 1/10. 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3

+ 1/100. 15 15 15 15 15 15 15 15 15 15

Refleum 11, 21, 15 21 21 21 21 21 21

Absorption of serum R.B.D. Tissue + Egg. For the removal. King contact.

Egg react 21 10. + 1/10 + 1/100


Tissue react. + 1/10 + 1/100

+ M. + 1/100. 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3

+ EF. 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3 15.3

IVB.

Absorption of serum 112. 112. 112. 112. 112. 112. 112. 112. 112. 112. 112.

Egg. 1/10 + 1/100 + 1/1000 contact

+ 1/100. 10 10 10 10 10 10 10 10 10 10


+ MF. 4.44 (2/100). Added complete + MF. 4.44 121. 90% e

Absorption of N. Same dekalitre but 112 added.

Egg. V + 1/100 + 1/1000

+ 1/100. 10 10 10 10 10 10 10 10 10 10

+ MF. 10 10 10 10 10 10 10 10 10 10

MF. 12 12 12 12 12 12 12 12 12 12

IVL 12 12 12 12 12 12 12 12 12 12

MF. 12 12 12 12 12 12 12 12 12 12

Count 44, 44.

Absorption serum N.D. Added.

Egg. + 1/10 + 1/100

+ 1/100. 10 10 10 10 10 10 10 10 10 10

+ MF. 24 24 24 24 24 24 24 24 24 24

IVL 12 12 12 12 12 12 12 12 12 12

MF. 12 12 12 12 12 12 12 12 12 12

IVL 12 12 12 12 12 12 12 12 12 12
**The current absorption**

<table>
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<th>E05</th>
<th>( V/100 )</th>
<th>% with</th>
<th>( +V )</th>
<th>( +/100 )</th>
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<tbody>
<tr>
<td>35</td>
<td>34.30</td>
<td>50.3</td>
<td>2.25</td>
<td>0.14</td>
</tr>
<tr>
<td>66</td>
<td>59.76</td>
<td>93.8</td>
<td>4.56</td>
<td>2.15</td>
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**Immunized**

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<th>% with</th>
<th>( +V )</th>
<th>( +/100 )</th>
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</thead>
<tbody>
<tr>
<td>35</td>
<td>34.30</td>
<td>50.3</td>
<td>2.25</td>
<td>0.14</td>
</tr>
<tr>
<td>66</td>
<td>59.76</td>
<td>93.8</td>
<td>4.56</td>
<td>2.15</td>
</tr>
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**Control**

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<th>% with</th>
<th>( +V )</th>
<th>( +/100 )</th>
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</thead>
<tbody>
<tr>
<td>35</td>
<td>34.30</td>
<td>50.3</td>
<td>2.25</td>
<td>0.14</td>
</tr>
<tr>
<td>66</td>
<td>59.76</td>
<td>93.8</td>
<td>4.56</td>
<td>2.15</td>
</tr>
</tbody>
</table>

**Reactions of home immune sera**

- Immune F(i) dilution: 1:000 \( V/1000 \), 1:200 \( V/100 \), 1:40 \( V/1 \), 1:2 \( V \)
- Immune E(6) dilution: 1:000 \( V/1000 \), 1:200 \( V/100 \), 1:40 \( V/10 \), 1:2 \( V \)

**Comparison of Absorption of Several F(i) by horse**

- **F(i) vs. E**
  - 1:000: \( V/1000 \)
  - 1:200: \( V/200 \)
  - 1:40: \( V/40 \)
  - 1:2: \( V \)

**Absorption**

- \( V/1000 \) 12/14 17/14
- \( V/200 \) 3/13 11/13
- \( V/40 \) 4/14 3/13

**Absorption by other means on mice**

- i.v.
- \( +/10 \)
- \( +/100 \)

**Absorption by other means on mice (continued)**

- \( V/1000 \) 12/14 17/14
- \( V/200 \) 3/13 11/13
- \( V/40 \) 4/14 3/13

**Absorption by other means on mice (continued)**

- i.v.
- \( +/10 \)
- \( +/100 \)

**Absorption by other means on mice (continued)**

- \( V/1000 \) 12/14 17/14
- \( V/200 \) 3/13 11/13
- \( V/40 \) 4/14 3/13

**Absorption by other means on mice (continued)**

- i.v.
- \( +/10 \)
- \( +/100 \)
Pathogenicity for hamsters: inoc. 29.10. incub. 7 days, injected intracerebrally 20.11.

Longevity 6 - 10 days. mean 10.47. 

Blood -

- 22.11. 10^4.7. 6.9. 6.7. 6.7. 6.7. 6.4. 2.5. 3.5. 2.5. 2.1.

Blood culture 72 th. CP 74 10^4.5 10^4 8. CP 75 10^4 10^4 6. Both immune on 9th.

Sedation


- 10.11.26. Ex. from fleshing. Area. 10^4 67. 67. 10^2 89. 10^2 89. Inoc. 10^2.

Treatment: 

P. 20 (29.10.26) since 29.11.26.

CP 71. 10^6 11.4 CP 72. 10^6 5 8. Inoc. 10^6 73. + 10^6 76. 7.4.

From 29.11. -
1. 

\begin{align*}
54.54 & + 1.7092 = 56.2494 \\
-45.32 & - 5.67 = -50.99 \\
12.3 & + 11.2 = 23.5 \\
27 & + 16 & = 43
\end{align*}

2. 

\begin{align*}
\text{Summary} & \\
1.7092 & + 0.471 = 1.1803 \\
\text{Result:} & \\
1.789 & + 0.471 & = 2.26 \text{ for } 25.3 & \text{ from Rep.}
\end{align*}

3. 

\begin{align*}
\text{Vibration of noise from} & \\
\text{air chamber:} & \\
92.34 & - 0.61 = 81.73 \\
-100 & + 0.1 = -99.9 \\
116 & + -1 = 115 \text{ and } 116 & \\
127 & + 0.1 = 127.1
\end{align*}

4. 

\begin{align*}
\text{Frequency study of normal sound waves} & (\text{also fine noise}) \\
\end{align*}

(\text{Mean from a trial board no Rep.})
<table>
<thead>
<tr>
<th>Name</th>
<th>Egg % 12</th>
<th>Egg % 4</th>
<th>Points 12</th>
<th>Points 4</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Sarah</td>
<td>28%</td>
<td>40%</td>
<td>30</td>
<td>30</td>
<td></td>
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<tr>
<td>Emily</td>
<td>75%</td>
<td>50%</td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Michael</td>
<td>65%</td>
<td>60%</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Elizabeth</td>
<td>85%</td>
<td>90%</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>David</td>
<td>75%</td>
<td>75%</td>
<td>70</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Emily</td>
<td>85%</td>
<td>90%</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Sarah</td>
<td>65%</td>
<td>60%</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Michael</td>
<td>75%</td>
<td>75%</td>
<td>70</td>
<td>70</td>
<td></td>
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<tr>
<td>Elizabeth</td>
<td>85%</td>
<td>90%</td>
<td>80</td>
<td>80</td>
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</tr>
<tr>
<td>David</td>
<td>65%</td>
<td>60%</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

The number of persons having few (premature) in June July 1935

<table>
<thead>
<tr>
<th>Name</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emily</td>
<td>4</td>
</tr>
<tr>
<td>Michael</td>
<td>3</td>
</tr>
<tr>
<td>Sarah</td>
<td>2</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>1</td>
</tr>
<tr>
<td>David</td>
<td>2</td>
</tr>
</tbody>
</table>

Incorporate errors & some fees

| KM2       | 0.93  |
| KM2       | 1.3   |
| KM2       | 0.91  |
| KM2       | 0.84  |
| KM2       | 3.57  |
| KM2       | 1.04  |
| KM2       | 0.67  |
| KM2       | 9.2   |

Wool

<table>
<thead>
<tr>
<th>Name</th>
<th>Count</th>
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</thead>
<tbody>
<tr>
<td>Emily</td>
<td>5</td>
</tr>
<tr>
<td>Michael</td>
<td>1</td>
</tr>
<tr>
<td>Sarah</td>
<td>1</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>1</td>
</tr>
<tr>
<td>David</td>
<td>3</td>
</tr>
</tbody>
</table>

Incorporate errors & some fees

| KM2       | 0.2   |
| KM2       | 0.12  |
| KM2       | 0.12  |
| KM2       | 0.2   |
| KM2       | 2.24  |

LWKB 1256

<p>| KM2       | 0.12  |
| KM2       | 0.11  |
| KM2       | 0.01  |
| KM2       | 0.02  |
| KM2       | 0.01  |</p>
<table>
<thead>
<tr>
<th>Nurse</th>
<th>Average</th>
<th>Range</th>
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<tbody>
<tr>
<td>Hudson</td>
<td>1.7%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Corten</td>
<td>3.9%</td>
<td></td>
</tr>
<tr>
<td>Sandebebe</td>
<td>4.7%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Antinola</td>
<td>2.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Ford</td>
<td>3.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Harden</td>
<td>2.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Head</td>
<td>4.7%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Newell</td>
<td>1.7%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Granger</td>
<td>2.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Rigden</td>
<td>2.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Henderson</td>
<td>1.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Bannister</td>
<td>2.2%</td>
<td>1.0%</td>
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<tr>
<td>Harington</td>
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<tr>
<td>Kennedy</td>
<td>1.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Rev. Russell</td>
<td>11.0%</td>
<td></td>
</tr>
<tr>
<td>Smith</td>
<td>2.0%</td>
<td></td>
</tr>
<tr>
<td>Hunt</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Hardwick</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Ford</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Sanderson</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Rogers</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Schneider</td>
<td>1.0%</td>
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Institute Score March 12-27

<table>
<thead>
<tr>
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<tr>
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<tr>
<td>Smith</td>
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<tr>
<td>Hunt</td>
<td>1.0%</td>
</tr>
<tr>
<td>Hardwick</td>
<td>1.0%</td>
</tr>
<tr>
<td>Ford</td>
<td>1.0%</td>
</tr>
<tr>
<td>Sanderson</td>
<td>1.0%</td>
</tr>
<tr>
<td>Rogers</td>
<td>1.0%</td>
</tr>
<tr>
<td>Schneider</td>
<td>1.0%</td>
</tr>
<tr>
<td>Smith</td>
<td>1.0%</td>
</tr>
<tr>
<td>50.0%</td>
<td></td>
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</tbody>
</table>

Comparison of nurses scoring + with name scoring - C.F.
Jack Walsh, 5 years old
Died 10/7/35
Children's Hospital

8 days ago classical measles
24 hours convulsions -> death

C.S.F. Clear (? chemical + micro)

R.M. No pneumonia
           (congestion only)

Brain no gross haemorrhage

General congestion
    pink grey matter

2 small haemorrhages in white matter
Bacteriophage 674
563.

674 is the number of the phage, which I received from Dr. Schwarzman. He grew it on Erysipelas strains, and No 563 is the Staphylococcus strain which I have always grown this phage on for general purposes. The phage in stoppered tubes had a titer of 10^10 when filtered on Aug. 3. That in sealed tubes was prepared sometime last spring and brought from Washington.

This phage was originally obtained by Dr. and Mrs. Clark of the University of
Wisconsin from sludge, about 1926.
Coping with Immunology

20.1. Line course in quick books. 

13-14. Test of fresh serum. 

Egg runs: 

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-11</td>
<td>11:00</td>
<td>[2]</td>
</tr>
<tr>
<td>17-11</td>
<td>11:10</td>
<td>12:59</td>
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</table>

10-11. Egg V. 0.6. Crude 4.1 x 10^{-5}. 

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Place</th>
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<td>10-11</td>
<td>10:50</td>
<td>12:50</td>
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<th>Place</th>
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<td>11:00</td>
</tr>
<tr>
<td>10-10</td>
<td>10:42</td>
<td>11:00</td>
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<table>
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<th>Place</th>
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<td>11:00</td>
</tr>
<tr>
<td>10-10</td>
<td>10:42</td>
<td>11:00</td>
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</table>

5/20. 0.107g 5/200 6.5%.
Parallel reaction: eggs + mice

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<thead>
<tr>
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<th>10^4</th>
<th>10^3</th>
<th>10^2</th>
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<tbody>
<tr>
<td>Eggs</td>
<td>5.2</td>
<td>3.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Mice</td>
<td>48</td>
<td>4.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>52.8</td>
<td>48.8</td>
<td>7.9</td>
</tr>
<tr>
<td>(20)</td>
<td>(3)</td>
<td>(0.3)</td>
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Graves Callaway

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<thead>
<tr>
<th>Time (h)</th>
<th>% 7 7/2</th>
<th>B'min.</th>
<th>0.0177</th>
<th>H's.</th>
<th>11:00</th>
<th>0:10</th>
<th>H's.</th>
<th>11:00</th>
<th>% H 7/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/10</td>
<td>0.0017</td>
<td>1.01</td>
<td>1.01</td>
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Fine relations of influenza infection in eggs:

0.327 virus serum added at periodic intervals. 66% alive.

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<th>Time</th>
<th>% 7 7/2</th>
<th>B'min.</th>
<th>0.0177</th>
<th>H's.</th>
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Repliion of virus + serum. Curve 1: 200m. curves.

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Comparison of different time intervals

\[ V = \frac{F_0}{r} \cdot e^{-r/t} \]

10:20 10:40 11:00

\[ V = \frac{F_0}{r} \cdot e^{-r/t} \]

Effect on hens:
- 106.3 - 107.2
- 107.9 - 108.2
- 107.2 - 108.8
- 108.2 - 109.0
- 109.0 - 109.8
- 109.8 - 110.2

Egg immune mice: 1/2 immune, PRD, 90% protective.

F56: Hens
- 2%/ (1%) \( \leq 0.1 \)

PRD: 0.0047
- 0.002 x 11.4
- 0.001 x 12.5

Rabbits:
- 105 - 106
- 107 - 108
- 109

Immunization of hens against PRD and PRD. 1 egg per.
**Geneva Temple Egg Record**

1. 11455 - E 11242 (7/23/27)
2. 11455
3. 11459
4. 11462
5. 11465 (80.2)
7. 11466
8. 11469
9. 11471
10. 11485. -> M. 4.14.2.15. [Incubation A 107]
11. 11481
12. 11487 (1 egg)
14. 12007
15. 12090
16. 12229
17. 12249
18. 12340
20. 12431
21. 12505. (300d for 165) $1.00 E. 12.
22. 12507 M. + Juice. Dead. 6.6.5. 11/10. 11. Egg. 11/10. worth +
23. 12509
24. 12716. 1st egg laid at 12 days. Egg 11/10. 40-50 free
25. 12718.9
The book restarts from the back cover from this point.

Images have been re-arranged to reflect this.
Idea for Australian work in 1930.

Salmon disease, monog., extend from fowl to coe. in eggs.

Intestines in eggs.

Influence of intestinal轨道 on White seabreeze hemolytic.

Tellurium and fowl blood as indicators of penetration of plagues into bacteria.

Other work on such penetration. Ex. yolk. Outside plague source.

Intravenous reactions in animals cause that block immune animal organs.

Does the chick infection spread only in eggs?

The effect of eggs as new source for fowl-producing sources.

Infecting it and x disease.

Cross-reactions between fowl diseases using serum tests from fowl immunized with egg materials.

As a source for all diseases similar to those characteristic in England in eggs.

First cross reactions in P.I.A. excreta & eggs in 6 R x R strains.

Influence of P.H. during antisépsis ee. in determining specificity of P.I.A.

Decayed in eggs.

Study of P.I.A. in sheepfarms with correlation of immunological features.

Pathosis away.

Some experiments on susceptibility of developing eggs to toxins of including anti fowl sera rabbit anti sera, and nerve sera.

Identical development with toxins in eggs.

Pathology in 1929.

A dried toxin a polysaccharide complex - relation of detection by HCD to P.I.A.

Nature of resistances differences in fowl toxins strains.

In each strain a pure toxin specific form + intermediate and eggs.

Contacted injection and rabbit antitoxin reactions with fowl toxins antisera using egg antigens.

Classification of rabbit antitoxin reactions in relation to indicators more brain or egg. Vaccinia causing both and fowl toxins.

Identification of toxins by fragment mass source.

Fowl seeds free specific flame non-gonadogous e.g. virus growing in egg.

Does this carry any sheep coe. by inoculation in sheep.

Will fowl toxins take subcutaneously in mice.

Changes in pathogenicity of chicken associated with dead foreign.
May 5, 1925

Phages - have brain virus parts regularly but not 100% - did not make in eggs. Action over 2 days give me apparently definite egg lesion with extraneous fixation + ? nuclear inclusions.

Lagophthalmia - Egg lesion one produced is easily transmissible giving characteristic lesion in 2-3 days + sometimes killing embryos. Optical inclusions similar to both, extraneous + meso extraneous.

Inoculation easy difficult, ? error in inoculation in both. Incub 1 7 + inc 0.9.

Induces for strong virus under study - drying to few results. So far it appears likely that a process of osmolar condensation is involved - Work on this contemplated.

Recombination - Several cases obtained - rotundations into nice smear - suggestion of richness at 6th day but not transmissible sections to same.

Eggs negative. Egg from fed negative from doubtful stock culture showed nuclear degeneration specific.

Phage: idea. No active effect on C16 is not general - As far as cells in progress go, all the large phage phages are insensitive except C16 or C8, C6 + C16 groups sensitive. Involution works in progress.

Attempts to derive S55 by using hydrolysis of washed C16 in progress.

Agglutination paper almost complete but Barnard finds recent preparation not so clear. Other group II phages agglutinate.

Hollings may be concentrated over 1000 nnumbers.

Bacterium C16 $\delta$ phage is practically identical. C16, A few cells with the agglutinate medium gave light cultures but not possible to obtain these cultures on filtration. [Some C16 on this.]

S55 hydrolysis by phage.

Still find conditions difficult to control - finally clear that A) C16 nattic on Y hydrolysis of Y and B) C6 hydrolysis resistant S55.

So that by no means sole factor.

Estimated attempt to get conditions right in future.
June 29 - work interrupted by vacation

*Hepatitis*: Still very uncertain results and isolation difficult.

*Bacterium*: In mixed culture with Shiga and similar cultures.

*Vaccination*: All results negative.

*Virus*: Continues with work to develop application technique using mainly egg parent virus.

*Flies*:
- Further experiments with ethyl alcohol used.
- Quantitative study of typical phages and Shiga area continued.
- Application - incubation + application powers run parallel.
- Hydrolysis of S.S. still hanging fire.
- Shiga phage shows effect on Y.S.S.
- Explanation favored at the moment is that another virulent bacteria have high adsorptive force for S.S. and so such it away from vicinity.
- A few seeds on French fries could be relevant in progress.

*June 30*:

*Hepatitis* dropped.

*Influence of Alcoholic Beverages*:
- Bacteriostatic factor present but requires repeating.
- Laryngitis: almost completely eradicated. Partially eradicated shows slight
  evidence of developing immunity - 75% followed up.
- F.P. enrolls in progress, plus vaccinia is certain.

*Vaccinia of French fries* - All in preliminary stage, animals under
- Vaccinia with other strains growing well in egg.

*Vaccinia* (Kussmaul) is highly toxic for embryos.

*Flies* - Virus reactions also negative. Work on lactic acid synthetic media
- Flies in progress. Definite evidence that way .disintegrates S.V. (by
  filtration) obtained. Area is successfully active on Yalab bacteria 10%
- (i.e. 50%) not being effective on the line at 27°

First photograph of some S.V. obtained.
ideas for further work

Salmonella typhimurium Strain 588 is destroyed by active phages e.g. C.6 using techniques pro-
duced with phage C.6. The method described above and add these to all cultures being grown by different
phages.

According to data made on 9.4.32 phage 51 multiplies in the developing egg.
Repeat this experiment using nucleic acid (5%) C.6 (10%) and C.12 (5%) and adequate controls.

lysis of dead bacteria. Is this also used resistant cultures? and by any other
phages than C.6.

Bacteria can be treated with C.6 certain them able
to absorb any 5% or C.6.

lytic activity with very small amounts of both for large effects.

13.10.32

Specifically noted coated C. 588 C.68 beyond normal B.
Idea for work on immunological relations of Free strains

The F.P. P.P. C.P. and Bacillus

Obtain rabbits immune to each and hyperimmunise

Test ant activity of egg virus in each case on strain as preliminary to immunisation. Incidentally check up statement that F.P. can multiply in rabbit skin.

As far as possible use immune free materials for immunisation.

Try working out artificial aux, doe well before seeing reason as method of obtaining elementary bodies.

Can anything be gained by new technique

Bacillus polo echovirus canarypox F.M.
Summary of Results on Bacterial Inhibition by C.6.

Action of formalin on phage reactions is slight.
Phage destruction is moderately rapid but formalin inhibited phage
a) in analogue (usually slower) and b) in contact with analogue
3) can still be specifically adsorbed to bacterial bacteria.

Formalin inhibited phage to 90% C.6. 1985 in cold than on bacterial side
no contracting strength with bacteria to be examined in culture 1985.

The action of formalin may be merely to remove the structure of the phage particle.

Formalin treated bacteria showed certain parts of absorbing C.6. 1980.
Bacteria in the metabolically active state are described by adding formalin and are quickly an in vitro
then treated & are much more difficult to cool well with C.6 a great deal being lost in the
process + being lost with del Reo.

Particulate taken place as well as Phage so in effect. 

They all culture treated with formalin failed to show clearing of phage.
Influence of time on survivors of bacteriophage particles.

So far nothing definite obtained—tests have reached very few to further

Experiments with filters—Preliminary efforts to filter show great difficulty in getting re: active filtrate

as starting point. Blocking again found instead of carriers in chicks simultaneously infectable disease zone.

This gives rapid killing & characteristic lesion in the eggs. Affords to offer opening for some useful work on relation to foot-and-mouth

Fusidic point of filters on Reckem

Preliminary tests at first gave a real lead—Puge obtained its antigen at 80

for 24 hours; when and filtered gave filtrates which possess specific blocking

characteristics corresponding to the bacteria from which they were derived.

Each extract from infected tissue contains corresponding each of filters to absorb

all filters from each extract.

5-8 (normal) extracts differ similarly. This seems important in view of the

fact that extract 5 on becoming 8 still retains the specific resistance to

foot-and-mouth disease.

The blocking substance from some of the activity on heating to 100° C for an

extraction. Blocked phage with sodium hydroxide exposure in neutral

filtrates—As this method is used in the process of SSS extraction—Each of blocking

factors with rather is explained.

On close inspection that 85% and percentage has followed

The activity is mediated by the homogeneous antibacterial enzyme system.

Evidence indicates that this is strictly specific, showing using SSS phage as

indicated. YK extract and all the blocking factor with a 5K second tone with

normal UV Y ZZ smooth serum while with YK extract all gave same reactions but

the 7 smooth serum would.

It produced factor strongly to the specific carbohydrate residue in unmodified form or

in combination with protein as the specific agent for blocking phage.
A. The chemical nature of the agent...
1. It is destroyed by alkali treatment such as is used in extraction of pure SSS.
2. It is resistant to cold. Heating to some extent 15 minutes boiling and aseptic treatment with alcohol and acetone (when on bacterial surface).

And finally hypothesizes that substance is C-F, serum specific antigen.

Hence, that much might be the solution for the substance in question: dialysis repeat of Henderson's ultracentrifuge technique or quick freezing, thawing.

At length to obtain material containing SSS well as ultra strains as possible.

The final test must be to obtain specific removal of activity by homologous camel's serum followed by serum from which the antibody has been removed by pure SSS.

At first fresh rabbit serum either from hogs or by immunization...

B. The nature of the phage - bacterial substance interaction:

Hypothesis: 1. Thinking of specific point of attack, rather analogous to autogenous effect.

2. Destruction of phage, by stimulating it to metabolic activity.

Experimental: Rate of reaction in relation to time, temperature and dilution.
Is the effect reversible? How is this tested?
If a purified pept of SSS obtainable attempt M.B. technique for metabolism.

Can an extract be incubated with absorption with excess of phage? Which on Koderm.

Phage - absorption - extraction to the maximum used for phage.
The significance of failure of DMSO + IC to be eliminated by active extracts.

Test possibility that phly. protein of organs may be the agent involved with these
also try out organs active extracts.

Test as many stages of this stage group as possible.

August 31st

In order to clarify the test-group effects, the sera 75% W + R as representing
in regard to 75% W + R.

That quantitatively the activity of these sera as agglutinating agent and neutralizing activity on S and R extracts.

Compare similarly activities of serum 75% (W) absorbed a) with W/R ratio
b) S/S. c) normal 75%. d) alcohol active extracted.

See Dyer extract in comparison with 75% for neutralizability by homologous serum
and for possibility of 3rd degree S/S effect.
Phage causing bacterial substance.

These can be obtained with regularity by inverting bags at 7:30 a.m.
for 24 hours, then opening and filtering separately preferably after a day or 2 in the
cool room.

Phages vary considerably in their rate with which they are inactivated; L is by
far the most reactive and is being used in most experiments. Others which show
marked killing in 10-millimetre zones were C14 B, C18 C19 Day Dr 14 H 58 Q8 Qe D4.
D5, D18 and D20 appear to be completely unaffected.

The action of an active extract on L is nearly completely parallel to the
influence of an exu-dase enzyme in regard to 1) size of colony - 7x2 plaque count
2) influence in diminishing size of plaques 3) effect on densities percentage, but
is obeyed. 4) the effect is non-reversible. 5) absorption of agent by exu-dase plaque
is hardly demonstrable. These points largely favor a membrane physical
change being responsible for plaque mechanism in each case.

Neutralization by antibacterial enzyme: 7/16S extract neutralized by anti-7S (13)
and anti-7/16S neutralized by 1S, 1B, 7B, 7S. "S" extract neutralized by 7/16S in
two 7S serum neutralizes 7S completely. 7R extract partially. Further analysis of
antibody in progress.

Relation to 5/3S. Serum anti-7 absorbed with 5/3S shows no loss of power to
kill L strain (2 Experiments) and retains power to give good precipitate with an
active extract. Serum anti-5 shows no, regard to possible blocking effect of 5/3S again
completely negligible.

Attempts to obtain concentrated preparations of phages with French - Press or
tear-dowel packed extracts with sodium-potassium extract although it contains
larger amounts of 5/3S resulted with failure.

Hypothesis of 5/3S-protien agents has therefore been abandoned for the present.
Heat resistance completely destroyed 15' at 100° at pH 8 but held about 18%
of activity if pH 4.

Nature of resistance shown by 1S/16.

That may be useful leads in regard to this strain are 1) it absorbs
phage toward which it is almost completely resistant 2) it goes a heat capable
剂 in antiserum at 37° and 3) also, heated emulsions are strongly agglutinated
by mouse Y serum.
Two plagues: Certain sections of neurons show total absence of any defined synaptic clefts and only a few, if any, are present. In addition, the infected neurons appear to break down and the infected plaques are not surrounded by a reactive cellular reaction.

First plague: eggs are seen to gather rather more readily than normal, resulting in a more acute attack. In mice, the infection is more severe.

Eggs of some parasites: attempts have been made to infect.

September 26

Plague: binding bacterial substances.

These are liberated only with autolysin (about 25% in normal conditions) even at 80° C. or from these infected (C10) bacteria. Digestion of bacteria sensitive.

Bacteria vary in the amount they elaborate. Y/16 is the best consistently.

Also from 39R good

Antisera preparations so far are the only ones which have given satisfactory results blocking with antitoxin group II plaques. Despite strong action of C10 and C10 or plaque titers are not blocked by plaque extract and usually 39R extract does not block 54 although both block the adequate minor group I plaques well.

Plague - B.S. interaction: The curve is very similar to an antipaste.

Neutralization blocking experiments using 75° destruction of plaque, point to the possibility of distinct fractions. Action against is not influenced by any of the factors used for blocking including A and B activity against plaque is markedly reduced by adsorption with cell.

Plague control bacteria do not absorb and apparently elaborate the active agent.

General work: Activity destroyed by Pb. 75% rec. 3H, formaldehyde by 30% formaldehyde is a good deal of activity in test. Lysozyme does not destroy the active agent in readily absorbed or filtered 30C. The 30C leaves practically nothing while filtrates of 20C show a 70% collection also removes nearly all.

General hypothesis still favors the view that the active agent is a labile form of cellulytic activity, readily converted by cellulytic to into the reactive form.

Immunological evidence still favors this view. The original plaque shows a definite blocking of plaque spread. Y/16 extract is found to be more susceptible to 80°C mood and 3H to 75°C. From this, the effect of pepsin and pancreatic enzymes would be expected from the confirmation.

The evidence suggests that there is a collection of readily activated plages present in the fluid. The result being that readily activated...
Relation of Lumpy to Foot and Mouth Disease

Efforts have been made to isolate viruses from both species. Both NDV and F.P. give regular 10,000 dilutions.

NDV in I.C. and 30 at 30°C; F.P. in 48 hours, 4°C.

0-20 μ in aqueous suspension and virus 0:1-0:10, as compared with F.P. 0:02-0:03 μ.

Foot-and-mouth disease viruses, on the other hand, are present in most NDV and not in F.P.


In Lumpy-Scarlet Fever:

The common infective agent is similar to both F.M. and classical F.p. For some reasons dying with one type and with the other, the scarlet fever.

Difficult to follow, and no unchangeable symptoms obtained.

Vascular Changes:

The virus gives an acute or characteristic lesion in eggs, and produces cellular (endothelial) proliferations with parenchymal inclusion bodies. These may be seen in the brain, intestine, and liver, etc. Investigations are being undertaken.

Transmission:

It seems likely that this virus multiplies in the egg producing yet another virus with a more rapid multiplication rate in the test tube.
Flage mechanism - bacterial subsidence

Flaflage does occur when bacteria are swirled vigorously by strong aeration.
Chemical symbiosis prevailing rapidly and no good n. p. is any preparation yet available.
Not destroyed by strong action of n. p. On alkaline reaction. Enamely parallel with
diarrheogenic activity. To prepare flage preparations yet.

Interaction between a. c. and flage.

The interaction between c. a. substance and 1 has an optimal temperature around 37°
when it is more rapid than at 50°. On the other hand, activation of cells by 1/10 stock
and 1/5 by 3X)R extract proceeds better at 40° than at 37° and subflage extraction
of 1 is also better at 50°.

The hypothesis is that the reaction proceeds in 2 stages. Adhesion to flage
a. stimulation of flage to action with consequent demagglutination. 1, n. flage
are affected only (concomitantly by 1st type of reaction) a. mainly by second. This
probably accounts for the facts that 1 is much more reactive than the others
and B. show no op blocking while salt does. Possibly of getting evidence of 1
flage methylation.

Protection effect of agent on flage population again demonstrated.

Verues

F. F. - N. D. Direct filtration completed 1/3 0:15 - - 0:20 + + + -
F. P. 0:15 + + 0:15 + + 0:15 -

Better still. F. P. filtrates not completely activated in 5 minutes with 200 c.p.
while N. D. is reduced from 1000000 to 10 by 20 minutes incubation. Thus making
it impractical to do separation by filtration or flage. Work done to be done.

An indirect F. P. shaw from 1000 also being tested.

Flage cause why.

Very difficult to follow but after freezing + thawing 11:00 + in canaries and 4:05
flage produced on egg. Few flage to count with much instead use c.v.

Egg incubation of egg. +. Surface foot pre life.
Photographs by Bernard shows charming diarthric family zygotes, very fine fine
with accounting for difficulty in filtration.
All canaries showing lesions have eventually died.

Vireolar Semantics

This shows irregularities in egg behavior, the reasons of which are not
clear. Indiana passed regularly, but sometimes holds and sometimes
disappears after poisoning. N. S. more so. For investigation - W. Smith
finds similar behavior with flu.
Looking ill - virus multiplied definitely and is found in brain + liver. Microsc. tests.
Further passages continuing.

Pertussis - Preliminary report showed 2 doubtful cases of egg dying on 2nd day
At this very fond on 3rd. Passage being continued.

December 4th

Slight coughing agent.

Now appears clear that pertussis is caused since S1 is inhibited by
pure formalin + Bacteriaria polysaccharides.

Some good evidence of progressive breaking off of active centres under influence
of allat or purifying measures in general.

H. I now readily clear & more readily clear S1 more readily than before.

Necular Frenesis

Egg now sensitive than guinea pig.
Cross neutralizations work well in egg again showing higher sensitivity of S1
reactive in egg for S1 used for egg.

Comparative filtration in progress.
Tilbourg 2nd 1934

Ideas for work.

- The anti-polyvalent anti-Salmonella factor.
- Syngeneity as an indicator of epidemiological relation in the Salmonella group.
May 1st 1934

Summary of 1 month work.

Vaccina canarypox and Newcastle disease have been grown satisfactorily and general organisation running smoothly.

Negri results have been obtained with 2 cases. Hodgkin's and active Negri's negatiques, old stock field cases. Phytophaga and just drawn behave material.

There is good evidence that quick freezing methods may be developed with canarypox for accurate titrations. Embryonation experiments on this basis are under way, the first being used as animal for immunisation.

Vaccina may also work but there seems to be fairly big differences from egg to egg in the number of poxes produced.

Newcastle disease local strain resembles that in a little more acutely; basic strain used in England is a little not through yet.

A case of Newcastle case from a neurological case has given puzzling results on the whole suggesting that a laying ill-like virus is present - more normalisations have been done.


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Dedication

Dedication of materials from Dept of Biological Standards Harpenden in terms of previous control standard has been carried out, results reported.

For King & Country.

Papers suggesting relationship sent to Ted J. Australia.

Backspage

Several difficulties have been found in getting a decent R vaccine and work has been tried to tackle primarily the undifferentiated nature of the specific nature antigens of the Newcastle chicken group.

A satisfactory technique for making crude preparations with birds has apparently been developed. In 10 cc of concentrated bacilli suspension add 10 cc of 0.9% NaCl + 0.2 cc 30% NaOH. Warming 37°C solution is practically immediate. Neutralise to about pH 7.2 (1 cc 10% acetic acid) and adjust pH 7.2 to 7.2 against growing under carbon dioxide. Adjust to pH 7.2 of necessary and spin: separates very well practically all activity being in the supernatant.

A method for obtaining suspensions free against very crude pleurisy: unharmed with buffered oxygen culture killed by formalin. This has resulted in a useful addition to Ross Miles's work on typhoid coli.
July 3rd 1935

From Charles in ENSO:

To first course given - Common cells failed give suggestive primary results but no
sustained variation. Very suggestive variations in degree of sedation not found in
incubated eggs makes it advisable to design some but absolutely definite criteria.

First definitely fails to multiply in this egg.

Inoculation with sera from free from immunized with egg mixes failed to show
any significant effect. Pilot course method probably gives a more accurate
estimate when any other technique but is decidedly interesting. A few eggs always seem
not to give from cultures that they should.

Granulomas... appears to be without any action.

Such eggs are being incubated for multiplication of fibrillar thromboids.

Table: Anticorps (FIA test)

All serum fials to give sera to be consistently and functionally identical differing
only in intensity of action - Fial No. 25 human (serum II) gives 50% as well
functionally inseparable sera strains find fials no activity as controls once
and give no active PIA. Extract. Second resistance like natural inseparability
is against all the serum fials that is associated with lack of toxicity. These
fials of serum obtained clinically react in this work similarly incubated at 37°
and not multiplying in both. Feelings of tending seeds from eggs being developed.

PIA. Rereentry Tecchiques

All attempts to get R or S active extract from failed to date:

PIA in an interesting variability in the range of activity of PIA. As Ys made in England
was notably against H. 25 recent tests much more active against H.

To find the gap very high H makes up to 12000 but 304 C's were needed

All not satisfied with serum technique; worth 20 a little yield given by antifreeze.

Recent aim is to accumulate unabridged stocks of active to rule out chance
activity of PIA.

That eggs may serve as tool similar for toxicity.

Homologous reaction does not seem directly related to agent.

Hemagglutination as against contrapositions of this. Any further results expected demonstrated.
Eggs in Egg

Incubation of vaccine is few more easy in rabbit skin cultures than in the eggs. Even after incubation at 37° with a normally active rabbit serum there is only slight or no development in the number of foetuses.

First pure material suitable for eggs by means of 0.87% phenol + methyl-nitrit (alone) for 1 hr at 86° with egg cultures. Gott spinning ward investigated.

Favorled development of sheep gave positive unknow by same technique but passage not affected.

Rats W.V. died on such eggs and by means of kidney lesion culture on membrane did not show any evidence of survival. Resolved by monkey tests.

"Black" did reveal the above evidence of a failure but not capable of passage.

On male egg transforming culture while echovirus produces a characteristic lesion only of the oviducts; and that the incidence for mice is thereby greatly reduced.

This question is being further investigated by Miss Indian.

Reading of successive stages of vaccine in sheep — third multiplication of vaccine occurs between 7 and 24 hours.

Two of these also died on 10 to 15 eggs.

Finding all received from Wallacq gave marked egg toads.

Bact. Hemophilus [This Week]

Two separate groups of avian plague P (3ging) include 7/55 8 - 24 weak avian plague O (3ging) isolated 7/55 8; 85 are also serologically distinct.

Dr. Sheat also finds avian plague.

Avian strains from red variety of sources are highly homogeneous from plague point of view showing only qualitative differences.

The difference between 8 and 85 is being investigated: no. occurs under influence of 8 gives rise to a nonfatal eczema and the evidence definitely points to plague multiplication without change without reaction

Sheat’s egg is a useful method of getting a clue about avian plague.

Bacteria HaC20,2 Phenomenon (1 Rd)

Dr. Sheat. Eld (week 294) shows effect. 35 at midweek; 158 practically not 6% reduction. Dai. Shows phenomenon clearly.

P.A. Legatory Locality

Copy on Y of W.Z.中午 to ready for despatch.

Good samples whole of 78 available.

Recent infection divides material into three parts or categories of intact antigen and finding 80 H.T. The other much more possibly related in HAD being close to 8 and finding 35 and Dai.
Aug 21st 1931 (cont)

De-ad, 2nd dose Aug 21st P 1A controls ending in "r"10 cell colony"

Extracts of fever for 10 and homology with extract are necessary for good "a" curves.

Extracts are much more toxic for domestic than for wild rabbits.

Filtered material free from apparent protein is actually antitoxic in wild rabbits.

Effect on mice

Toxoid: one from C 1.1. 4th. Supply from Shortland.

Sept 23rd

Virus works: fast for strain gives necrotic lesions which in one experiment appears to give much more accurate quantitative results than finger. Further daily sections have been obtained. Skin appears to be more readily metastasis than notch.

Staphylocci: Virus from Shortland lysergenically active.

In 102 eggs, 3311 virus and guinea of embryos 5th day in 14 eggs death usually occurs on 5th day. Eggs may be used for neutralisation tests.

Egg transfer: stored in salt. Fine strains slowly rapidly.

Bil. eggs die in 3 days.

Mice die in 7-8 days typically. Susa killer neutralises. Strain from encephalitis case. Drug does not neutralise.

Encephalitis

Rabbits from Adelaide selected portion with enlarged spleens 1/30 contained Encephalitis virus. Bil. Encephalitis had enlarged spleens but no virus isolated.

Virus of the intestine for mice but harmless to intracerebral inoculation threshold.

The effect neutralised. L.C.I. E. coli. killed in spleen.

Not very active in eggs but produces typical fever, spread, small white edage, fine, mostly distributed near edge of inoculated region in both hen and chick eggs.

Some eggs may fine means can be obtained with histologic cells examined with l.c.i. E. coli. Work on mice in egg in progress.

Purgers from a Melbourne dealer also show enlarged spleens 1/3 and chronic febed.

8th and 11th case leucoc. spleen sterile. Under investigation.
Parrot's: Batch of parrots freshly caught recently infected with Parcopos including one dead with very massive infection of spleen (plus) 1/5 tested 2nd type of virus

Bacillary symptoms no apparent egg virus agent present.

Early stages of avian bodies satisfactorily worked out confirming mustard and histology proposed.

Paper presented on egg

Pathogenic for monkeys in unadulterated inoculation. Blood obtained from 1 mustard

Drainage of different brains being tested on mice. None alive. Pathogenic to higher dilutions. Different pathogenic strains 1 due to species of avian all strains. Paracopos strain Avian virus very rare

4 strains tested others 2 moderately evident i.e. giving gross lesions at 10-10

up to 10 4 more each giving one Paracopos strain on 10 at high dilution

Batch of strains from Kimberly exhibit V.A. all negative

No sore in spleen of infected embryo

Puyung ill. Too possible area healed both reg.

Not per Stomach difficulty in keeping up gaining

Paper practically completed. With few area 4 others tested worked out giving clear results. Application of phase control bacteria in strain with phase 28. Application of phase variables that but not strong enough suspensions available.

Phase B.M.

Not at all readily prepared. Preparing from crude preparations available

P.M. Final agent Paracopos Bovine from

A.R. + B. 

Ald Br culture

A. Bovine

Growth poor.

Cell wall method followed by rapid centrefugation these most helpful so far

Phase toxins

Panic manrique strains give a totally distinct type of toxin from human ones

Here are some sheep and cattle intermediate. Toxins prepared and under investigation.

Inoculated

A second batch of submucous inoculations gave no definite site of lesions with the same characteristic histological lesion. Sheep lesions became sites of inapparent.

6th gen. no effect on mice. Immunity being tested.
Jan 1st 1935

Almost no work all day. Papers under press for AM2AAS.

Pathoan: 2 papers from Blackburn 1936. Their multiplication in nervous

tissues maximum by 24th day. Papers to J Path & Rec.

Outlying ill: Some sheep sera available.

Rabbits blood + - Rabbit encephalitis both negative.

Elephant pox: Papers sent off to J Path & Rec.

General: Our papers are much more seriously dealt with than the work on typhs.

P.I. A great difficulty in retaining activity.

Jan 17th 1935

Received one page on papers from J.

Pathoan: Pneumonia. A large number of cases dealt with.

Some cases of severe pneumonia in rabbits at various stages. No similar cases were reported.

50 rabbits were positive.

Immunological work: Antigen prepared to satisfactory c.g. yet.

Elephant pox: A number of cases dealt with. Several fatal cases in rabbits injected.

No more than 1000 apparent multiplication in any case.

General: Two families results indicate no multiplication in direct egg passed to nervous tissue.

Elephant pox appears to multiply in nervous tissue, passing to blood (mouse).

EF: rabbits and m.o. to move from 10 to 100.

March 12th 1935

Pathoan: Two cases of fatal pathoan in rabbits both showing 100 in blood serum.

and giving active and passive sera.

Three cases from W.A. showed only slight titres otherwise negative.

Elephant pox from Queensland was probably all infected with a virus of the grade

so were rabbits - all had enlarged spleens but only one gave more virus. 18 Rabbits of

5 species were all negative.

27 cases of 1930 are being tested probably none will be positive.

Two cases in rabbit associated with some of the said rabbits. No cases noticed.

Report sent to Compston. Passage through guinea pig 1 generation.

April 3rd

Virus introduced into cases of red leggins and apparently multiplies in the

ocular fluid where it is present 2 to 4 days after introduction and does not pass into the brain. At 4 days virus is present in the blood stream.

Passage in under way and needs for appearance of nervous antibodies

are being made.

Possibly of St. Barat strain being active in being re-investigated.
Egg-membrane technique. Rhizopus oryzae multiplies defined and has an apparently
characteristic picture.

Vaccinia and pseudovaccinia have been tested with eggs of varying degrees of incubation
Vaccinia results show striking uniformity of older 12 day eggs until very much
higher count of tobacco plants than the younger ones. Immunized bodies to 12 egg.
Pseudovaccinia gives best results at around 10-11 day period.

Forcing ill 200 mice were to be tested similarly.

Schonlein's reaction made partly from infected mouse brains gives a telling though somewhat
paralyzing pseudovaccinia till less necrosis. This contrasts with vaccination failures in
which patentates were tested. Again best results with 12 day eggs but gross lesions
also in younger men 12 egg killed after 4 days until gross skin lesions.

This relates to schonlein due to triangulate paper in J. F. Bull. Real.

Forcing ill in doubly eggs kills within 12 hrs. with very little in the way of lesions.
Feverish disease in single egg killed in 24-26 hrs.: membrane in 2 instances have
shown typical pseudovaccinia.

Evidence of presence of hantatale has been obtained in mouse brains.

Backlog work was very active.

Vaccinia against photodynamic vaccination is given only by huge capacity of fee.
only obtaining the plague. P.I.R. at a standstill.

Plague does become rather similar to P again but return to original very
satisfactory material.

This work on T vaccination contemplated also on capillary rise in liver jaun.

March 31st, 1935

Pseudovaccinia 1/60 normal will require but one enlarged plaques... further batches of tubains
plaque gave a few positive reactions. These controls showed some large uninfected
plaques multiplies in grey brain.

Three different strains of 1/60 failed. 1/30 failed. 1/100 control all
gave similar pictures in injected rats in mice. 1/30 bodies were not constantly found
with any of these. 1/6 being presumptive lesions for rule however.

Rats untreated subsequently with fresh virus were develop fatal pneumonia
with large numbers of L/C in sputum. Pseudovaccinia prolonged. Subcutaneous to rats
appears to be fatal but repeated subcutaneous to rats IN give no illness.

Immunity maintained for 2 months. Rats also under way.
Experimetal results. Passage from rat to rat to rat III succeeded for 2 generations then died.

General state conducted out. Line showed no appearance of neutralizing antibodies.

Some offered fairly regularly in the blood. No chromium-19 variation.

Rate measured by free treatment did not show appearance of virus in 9 of 12 after neutralized inoculation.

Serum B: shows does not contain neutralizing antibodies or does cause focal patch.

further analysis (unpublished)

Experimetal.

In eggs, 3rd passage infected for mice strain. Examined at 21st interval in 10th egg.

Results not yet clear as apparent massive mutations are necessary to get really satisfactory lesions. Apparent lesions may sometimes contain virus.

In mice some have shown permanent lesions in lungs after neutralized inoculation but not histologically typical. Few unneutralized animals have shown virus in 0.4 to 5 days afterwards.

Egg technique.

Comparison of C.N. in 10th eggs: 10s 40 - 20 + 10 x 2. Great superiority of these eggs.

Experimetal failure with families in eggs. No clear influence of virus trained.

Nature also for mice satisfactory in 12th eggs.

Apparition of method to necrosis technique does not give thoroughly satisfying results, duplicates all those frankly with variations.

Looking for eggs on 21st and 34th day in 12th egg shows distinct focal lesions which may fail to be suitable for fresh treatment methods. Failure with range in absence however.

C.O. fresh N and N.D. 12 to 15th eggs N.D.

Whether from mice or chicks early deaths gave a less defined fatal necrosis. N.D.

N.D. in older eggs also lacking similar N.D. that gives more definite lesions - death indications not yet done.

Looking for in older eggs appears to hold but apparently the later dying lesions are not sufficient for further eggs or for mice.

Adapting species. Very scarce. Both apparently without considerable and 7th strain in rabbit.

Conditions of propagation. Considerable variability from culture to culture of same strain.

In flirt kept in production of CO, O2, 21% at 27° in 3 to 5 days.
The boxed sentence from Box 1 text reads: "The boxed sentence from Box 1 text reads: "

1. Culture
2. Isolation
3. Identification
4. Pathogenesis
5. Treatment
6. Prevention

The boxed sentence from Box 1 text reads: "The boxed sentence from Box 1 text reads: "

1. Culture
2. Isolation
3. Identification
4. Pathogenesis
5. Treatment
6. Prevention
June 2nd 1935.

**Footnotes** - Passage of A chains keeps them constant killing young mice in 1-2 days - often with paralyzing reactions - paper ready for publication.

i. Earlier work has shown no significant neutralizing power

ii. A number of sheep sera from different regions have been tested and none from a susceptible condition in NZ is all negative so far.

iii. Egg infections are useful but non-specific results from are liable to be confusing when controls + (not infected) are used. More sensitive than mice but definitely requires cooperation by mouse test.

iv. The salt: transudal regions multiplication in off mouse 2-3 days but always much more in the off chick. Thus disappears from off chick about 3-9 days consistently with the appearance of traces of antibody in the serum.

v. Direct introduction into off chick absent multiplication but 1p or subcutaneous injection doses not. An experiment suggests what in the absence of propagation in o.m. mice does not pass to the corresponding side.

**Eggs**

Trans Rfsh working out conditions of multiplication and survival in eggs.

In the rat multiplication appears to take place in off mouse and in chick fails into o.m. Neutralizing antibody demonstrable in egg tests appear but are not quite certain yet. Guinea rats not generally susceptible to sylvaticus.

Some work has been on transmission to X royal mouse and mice off R. B. of NZ eggs unharnessed multiplication under way.

**Summary Remarks**

Three strains? Found? Satisfactory from Redden and 'Otago' from a meteora case are going well.

Many neutralisation tests have been done indicating what serum neutralisation caused is common and much more extensive than actual infections by the virus.
The Victorian case a spleenite are not associated with any extensive symptoms - a consider
able amount of fluid in present in the forms.

The virus gives very good disposable counts of field eggs and may be useful for
milk control on virus neutralization. The experiment showed unequivocally that
the fowl serum played a significant part in determining the number of field-produced

Poulteries - P: 0.

2 days before expl, mg. 2 mg 10 mg labeled. 0 mg gave typical lesion on
rabbit ear; 2 mg show little, 0 mg showed no lesion.

Care of poultries gave very rapid primary lesions and secondary cases but
work is not yet established.

Highly general discussion:

3 1/2 months progress, no detectable rabbit r: nl. Test for toxicity under my

Reactions:

5/6 production of phage being studied. Indications are that 0 is first
released gradually changing to 0' which then produced internally is capable
of lysing the organism.

Indication of 0 by PI 0. is not accelerated or inhibited by arginine. The
As: blood effect does not hold for any phage other than 0.

We need the inactivated phages as effective antigens going in good
uses as the standard living phages.

June 28 th 1935.

Reactions. Table 1 shows no neutralizing and no second serum. Brucellosis also
shows unbiased neutralization in the egg. Tests not completed yet. A number of sheep.
and cattle have been tested negatively although some of the latter seemed to vary over x/10
differences of mean. Good results reported.

Egg results are not more intelligible. Different age eggs when that 1/24 to
with the most satisfactory. 20 of 1/24 show marked of bacterial reaction, considerable
not clearly. In the egg there is a relative phenomenon which makes a big difference
in the interpretation to be posed on findings. Dairy egg incubation being nearly used.

Reactions are not paper controlled. Mucous phenomena occur only irregularly
but as few as is given is consistent with animal spread.

Further experiments on infectivity of embryos not under way.

Paulson's base of infection from backergans to goatfish through. Paper sent to
of Virginia.
Definite neutralisation of rat serum in eggs - mice after enhancement of immunity.
So are present in infected and normal animals.

Ragweed results are much better obtained with eggs - egg membranes showing no recognisable lesions Infective for mice.

Rat passage experiments confounded by bacterial infection.

**Infective Influenza Studies**

Many neutralisation tests on confounded with attack of influenza, pneumonia.
Serology of different strains. Some tests show that H1N1 and H3N2 strains are antigenically similar but the H1N2 strain one much more easily neutralised by rabbit sera than the earlier ones.

A new rabbit strain obtained from same farm at Springfield, two sets H1N1 strain and the American strain have been used going on eggs.

Serological test of American strain does identity with American strains.

Influence of type of contact and result has been compared. American regularly more activity noted diluted - indication that 80% the results for neutralisation of different quantities.

**Theory of Antigen Antibody Reaction**

Hypothesis that double antibody methods might be developed by simultaneous immunisation of rabbit with antigen and virus. This under way H1N1 shown in Florida.

**Back to Back:**

8 story practically complete 8.8 change occurs fairly regularly in 87% resistant.

Influenza:

Ferrets from current case to ferrets mice and eggs. At ferrets show definite symptoms and temperature 105°.

**July 5th 1935**

[Note: B. coli appears to give few cases and more constant cases at 37° than (39.5-40°) this finding is being applied to other strains. Frequently due to unequal development is being checked by adding eggs according to appearances under transmission rather than actual incubation age.

Eggs to early stages have been added histologically a consistent feature of the early stages this few developed.

Influenza neutralisation of rat serum taken up well in egg hosts at 39°.

Killed very quickly killed off with heat for activity mannery. kept under dry to inactivate with formaldehyde solution.
Aug 24 1935

Leukemic - Another x disease seems negative: Rats from eggs in 3 days at various
two points: X-rayed rats seem to be slightly more susceptible to infection
with 1/4; one going definite spread to carcasses. heat shock of infected muscle
almost to spread to infected bull

Laughead's

Further experiments on reactivation reaction confirm three points

Reactivation progresses with time: 70°C 36 hours approximately

Reactivation on rabbit tissues. Tuberculosis inoculation with Mycobac-

tria produces high titre serum against classical strains. Double inoculation
experiment failed. Further study of serum commenced.

Influence:

Direct first passage was isolated from case and cultured through six first

generations. Original material 1st and 2nd passage negative in mice; 5th and
6th passage. Second mouse passage gave good lesions in several deaths. Rabbit
from 2nd passage for feeding.

Mouse definitely survived one passage on egg. Distinct suggestion of lesions
on nerve roots.

Experiment being arranged to test blood serum of infected animals at monthly
intervals for course of immunity.

Attempts under way to produce first passage strain egg x mouse strain x fish.

Rachnophages:

Instead of producing rightlike cut by growth will cut in community wherein fish
appears to be fully forming to be applied to other problems.

B. Staph: Locus. Some progress appears to have been made; details not yet available

Aug 24 1935

Leukemia: Active immunity ir demonstrable in rats. Immune sections nothing definite
with some irregularities in results of egg xenografts. Immunosensitization
with formalinized virus juice appears to be successful.

Leukemia: Another Sophus serum negative. Paper on rat story sent to Dr.

Rachnophages: Paper on immunological studies almost completed. 3th of 5 be-

front made by Rachnophages. Effect on mice as for plague. Effect on egg of frogs
and on rendering made non-fishable established this month. Percentage loss and
negligible of rabbit carcasses established with satisfactory experiments.
Jackson reports that egg was 
injected for⎽ + reduces infectious disease
12 Victoria for vera washed 3x doses infected, most sera may normally achieve but
some quite better. Separated material goes below 0.5% after 12 days.
10day egg.
Thus the union produced on egg by bacteria from very condition in chickens.

Inhibitory

Four passages by daily dick out. Egg + more chains still needed for free.
Three chains readily passed by fowl. Partial neutralized by serum R.A. with
considerable irregularities. Neutralized by normal serum R.A. but not by wide range
of animal sera. Irreproducible variation in culture of R.A. Collection of sera from 6
of British staff arranged.

1. Egg propagation was well established. 12 passages in ferret animal tests and
characteristic lesion of full form often becoming vague and woody in appearance. History
usually produces dryness. Cold more severe looking and apparently offers the
multi more nearly reaction that neutralized partially attacked.

Results may be improving over passage but not yet good enough for further or
neutralization tests. Temperatures 38° mean higher than 37°.

Common cold
2/3 more deaths from cases of 0.2. After a determined effort
on egg material producing smaller quantity of deaths. To effect an effort on race
+ cannot immunity form against fr.

Remark. Time lost away on holiday nothing to report.

3. Chicken
There appears to be a general resemblance in physical properties to & toxin.

Sept 20th 1935

The air is interfused with B.M.A.

next week may have favorable notices or something alike

Ferret
Virus has had 32 passages on egg, continuing to show typical lesion
and to give large grade above recovery 15th passage worked for ferret
Passage
Two attempts in unsuccessful. More for fowl to egg completely unsuccessful
although an earlier attempt was quite good. Recovery of fowl better very irregular.

Test of Aug 37th injected from Balchets Egg and very satisfactory recovery
in mediums of culture. But still neutralization doesn’t work on egg material

Paper on egg grade to M.T.A.

Common cold. Apparent miss 0.2. No other lots negative
The egg passage of 2.5 generations appears to be fairly rapid in virulence for egg not yet good enough for experimental work. Some virulence steps less definite partially falling short.

These shanks have been taken for 6 egg passage & is remaining definitely more pathogenic for mice than the first egg shank.

Some shanks (Chang passage) has shown some fluctuations but is now continuing well and good vaccination experiments being made with some good results being obtained. Field immunity seems sent to England.

Egg passage:

Apparently nonpathogenic febrile and extremely mild bacteria obtained from one passage from rabbit. Convalescence from the initial disease negative to I.I. Forward to field trials from England.

Laying abilities:

Experiments on vaccination in the egg, definite enough but very few results from point of view of counting free. Serologic formation almost universal.

Further trials of deep sera are all negative. Failed tests on infected changes in the embryos obtained and method worked out for taking blood samples from infected sera.

Experiments:

Egg results have been very bad and attempts to use different temperatures dilution of sera of no avail. Attempts have been commenced to use radioactive substances in presence of amipicid in egg virus. Antiserum made from these results needed stage culture being used.

Hemorrhagic:

The shanks available in fatal to rats unaccompanied and in about 7/8 cases passes to site of bites after intranasal administration but not in cerebral hemorrhage. Larger doses produce fatal pneumonia in rats & mice.

Egg use and as use object for further work.

Pigs:

Experiments on rabbits from which of these wanted being commenced.

Dilution of sera in mice - added in working satisfactorily. Common cold. Another from 112 being tested. Two more contacts available have been taken with appearances.

β haem. toxin:

The human shanks allow association into type II and predominantly type III. Somewhat similar changes in one form intermediate.
Egg passage was going well with much more distinct lesions. At high dilutions for one container, but also variable. Feces of snakes were found in snake lesions. Feces of mice were not found in mouse lesions. A few cases show no antibody in the 4th week. Feces of mice gave no antibody rise.

Arrangements were made with Dr. Wood and Anders to study clinical influences from a clinical point of view during 1930.

1.7 and 3rd injections. Severe appearance of 1.7. To other work.

Leukemia: Egg from rabbit with no change in mouse = all slow and negative and gradual abandonment of 1.7. Susceptibility 1.7. Virus regularly present in worked AEC of embryo and is to a considerable degree lowered by hemolysis with AD.

Virus: Primary stocks in eggs, but passed to 3 generations.

Expt. Local administration experiment failed. Diffusion experiment. Embryos were kept in a closed tank with a level of 1.7. Virus.

Embryonic eggs on rat cells in test tube. Several passages on propagation is egg nearly finished. Results are not rather more regular. See that egg passage seems to be inferior for egg with more than virus.

No current passage except a few for the lesion appeared at 34th generation not yet elucidated (1:8 or 1:10 or 1:50). A few show positive results. Preliminary result is in favor of early effect and difficulty to influence results. Parallel results to antibody in embryo in egg and mouse.

Collection to be utilized by return demonstrable in infected mice.

Well marked tumor observable in three days associated with white coloration seen, related from an animal, and from all implicated contacts. Collected with some success in large spleen, but not yet code. May be negative.

Resistance to antitoxin or vaccine is being followed up. Probably a nonviable result of viral vaccine.

Exceptionally favorable material from another of higher-grade embryo. Apparently transmitted in milk, but no result in mice. Rabbits given pills of eggs.
Feb 21st 1936.

Experiments:
- Further increase in efficiency of egg lines. Quantitative experiments are in progress to be started at once.
- Isemba: Eggs become quite sensitive to metrizo. Passage experiments repeated successfully. Met. takes readily. Paper completed and work closed down for present.
- Paracoccidiosis: Evidences from passage panel outline. Well calcareous from embryos and no demonstrable toxins. A lot of negative culture work.
- F. T. B. Test completed.

Rabbits:
- Rabbits with Salterella in age. Salterella egg paper completed. Paper under ready to submit for publication.

Feb 24th 1936.

Experiments:
- Lethal increase in virulence for egg lines occurred shall looking place between 2-3 days with hemorrhages mainly in the brain and also (in most cases) in muscles of embryo.
- Blocking experiments progressing well—immunological experiments have shown activity of very little virulence dilutions. This effect is slight but probably definite. Relation between serum concentration & survivors.

<table>
<thead>
<tr>
<th>F. Concentration</th>
<th>10</th>
<th>100</th>
<th>200</th>
<th>400</th>
<th>800</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Survivors</td>
<td>&lt;0%</td>
<td>0.04</td>
<td>0.08</td>
<td>0.12</td>
<td>0.16</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Some degree of dissociation can be demonstrated.

Pathogenesis for fowls & mice under investigation. Apparently almost completely fatal without treatment. Yet pathogenic for fowls.

Paracoccidiosis:
- Good poultry care in M.N. Fowls working at C.P. West.
- Paper promised for recent Experiments in fowls.

Differences:
- M.N. from horde gave long-standing primary factors in some cases not yet faired transmissible factors in similar panels.
- Primary virus + factors. Thus factor has satisfactory F.P. and others which produces abnormal results in C.V. and similar factor of pathological reaction between C.V. and F.P.

Vacancies: Various papers completed. Establishing percentage lines curve with various dilutions, observation and cln. effect.
Exhibitions: Positive cases in Oxford Hospital, contact butchers only. 2) Herring off ship, contact with sick birds. Serum positive in each.

Foot and Mouth Virus: This virus was compared with experiments using R. pneumoniae foot and mouth virus and anti-CV rabbit serum showing high degree of cross-neutralization but not complete identity. Rabbit serum produced by immunization with question C.V. of egg origin.

Changes: No deaths - Worked.

Summary

Finally, increase in incidence up to 75% over for immunological work earlier generations are being used 60-70 as allowing survival for anitbodies.

High incidence egg yolk fluids typically at 35° as at 30-31°.

Relation between serum dilution and neutralizing effect is almost 1:1 inverse one.

These and other results are quite definite but not very marked.

Human immune serum has a much less marked effect than on mice.

5th Series

Specific pneumonia is induced by respiratory instillation in mice.

May 1936

Exhibitions: Paper for 3D CG under way with J-M. Also for Anarch Reganemia. No fresh cases.

Reports: Foot and Mouth C.V. Bovine ill and Anarchemia I do bring out Exp. Bank.

Summary

Single foots strain has been isolated and used for recent people.

Tests and mice were inoculated with the passage egg fluid are substantially normalised to subsequent instillation with neutralizing virus. Neutral serum response is better in a single mouse showing about 1 2 egg fluid.

Relation between serum with and 40 serum confirmed for all circumstances.

Further comparisons of egg and mouse titrations show some wide discrepancies particularly with human sera although there is a general parallelism.

Serum CHK which is one in egg has no normal activity against 10 egg fluid of egg origin when tested in the mouse.

Egg serum removes below in PBS saline.

Egg serum tested cases of all are completely resistant as regards change after attack.

Partially neutralised serum is rendered less readily filterable.
June 19, 1926.

Intensive isolation and observation experiments indicate the absence of a higher resistant union in the early stages. Klingler supplied by Koza.

The test will complete 1st and second chamber some relationship.

In this connection a good deal of further work is in progress.

The peak curve with few exceptions is not a composite measure of activity. Incubation of eggs, going to a slightly elongated line. Eggs at 30° are not killed by minute amounts of virus capable of killing at 27°.

Our present means (passing strain [explicit method]) does not continue in eggs.

These curves seem to have about shown a distinct increase in activity.

No change in institute staff antibody tests.

No effect is noted on serum neutralization of infected control.

Isolation of human and animal cephalic vibriosis shows two completely distinct strains.

I.N.T.

Two tests to date indicate. The protection experiment is an attempt to show specific union with diseases. Beagles define so far.

Two immune serum not promising.

Comment: Preliminary tests in egg furnish only what is almost certainly a contaminant with current egg fabrication.

Drum: There has been a reduced field of freedom in a small proportion still carrying on.

Note: Due to the fact that the two groups probably.

Results: Small tests now running well in capacity to apparent reaction to virus. Viables unable to test.

Neutralization results suspected except for virus.

Other: Slight neutralization where typical curve is reached.

Varying serum dilution reveals curves being obtained. Good phases give a very uniform shape almost straight line curve.

Thus human has interesting results with variours of H which is highly inoculated by P.I.A. with absorbed rabbit lungs and similarly treated rabbits.

P.I.A. inoculation curve shows that shows no apparent interaction.

Among the agents but shows first tends to reduce P.I.A. action at high dilutions.

Briefly: Animal class is one that gives typical curve in mice.

Inoculation with virus culture affects immediate but not very great protection as against unabraded inoculation. Excellent histological section of lesions in Conklin obtained.
July 18, 1936.

Influenza: Fever in nature of virus antibody union nearly completed. This effect perhaps may clear evidence of equilibrium rapidly attained and application of simple mass action principles gives complete account of reaction.

Red infective for embryos

Egg virus does not produce antiviral infection in P.E.

C.M.E. stain is of high mass incidence and produces moderately good frie in eggs but has not now as telling form for embryos.

P.H.T. Virus sucked on serum dilution + rise effect. serum is red. scales: results fairly similar to fife.

Phages: 5/12 gives a regular serum dilution curve and shows no dissociation. The effect is very smooth and shows no resemblance to that obtained with fife or other viruses.

This shows less further evidence of blocking of P.E. destruction by the use of small amounts of immune serum.

Keep phages produce immune sera of good titre and typical behaviour.

Pathosis: Animals with cultureds vaccine give very little indication of reaction except for rise in serum for cultures from lungs of immune mice. A third culture give typical lesions.

The bacteroid isolated appears to be working well.

Keeping all contamination works being started. Egg monograph typed and undergoing a final editing up.

August 19, 1936.

Influenza: Fever on serum antibody completed. Further experiments with no further serum

fit correspondingly.

Egg virus is excellent immunising agent for mice - immunity appearing between 7 and 10 days.

Preliminary study of infective by egg virus in fowls under way. Apparently no virus is liberated in nose.

Early infection in DC + + B gives no symptoms and no increase in Dr. line.

Trace of antibody present in fowl 5 days after inoculation.

C.M.E. no virus very little change in egg passage still indicated for mice but not fitting well on the egg.

P.H.T. Test first few satisfactory virus effect curves. Strong suggestion that virus is at a lower grade of virulence and new workability shown presently.

Tests on young tanks to be done.
Aug 1 1936 (Cont.)

Concerning more recently conducted studies than previously.

Several satisfactory immunological experiments in eggs. Serum dilution curve is definitely higher than for and destruction incomplete. This offers some relation to dilution of serum.

Japanese virus in passages E17 and a new ? strain from recurrent fowl fever. No further work because no attempt is being made to passage each generation with eggs. Brain material.

Macroscopically: Nuclei working on Australian virus. The value of this for future work seems to have diminished considerably and is difficult in obtaining serum useful.

From these initial causes serum may be influenced and some yields somewhat inexplicable. To gross immunity with just?

Pathways: Immunity results more indefinite. Experiments under way on use of material as antigen to media. Results still far from being the incomplete.

Pathogenically: Slight course of 8/19 not easy to reproduce and probably due.

From previous results that when 1/4 of H was reduced by serum to about 1/100 the antibodies were completely incapable to P.I.3. exacerbation. This seems to have important theoretical applications.

Sept 6th 1936

Influenza: Details on typhoid still run over year show some interesting results.

Egg dilutions show steady fall. No sign of small serum in the and definite small rise in both. At FM B subsequent to egg for inoculation. There are not sufficient to be showed by more tests.

Egg yolk in few tests not elevated in nor and not infections but produces very considerable immunity: high titer runs. More tests will still infections from first to first.

FM after 12 weeks egg passages no new reliable on egg and comparable

Individuals on raw + eggs are under way.

Egg in dilution 12 + V.A.B reaction to first 20, 28, 35, 42. These.

H. T. titre of "Fowls" on young chickens very slight apparently.

Hypothetical. Apparent increase in titer may be due to contamination of FM1 as virus appears to be accompanied by few normal immune sera.
Influence: As R.T. failed to give detectable egg camel up to present. Indicators are that

differences between sera are associated with elevation neural rabies virus 

Absorption experiments with mouse blood or egg suspensions going well. Preliminary

interpretation that only the most avid fraction is available for egg fraction less avid

and antibody being capable of precipitating mix.

I.T.: Further specimens show disappearance. Virus large infected

1. T. Egg mix of exactly the mixture for death—being passage

by passage. This first time below on egg immunology. Laboratory serum is of frothing

and takes 2 or 3 weeks.

Backwash: Tabled experiments on 216 at 2°C difficult to give reproducible

results but some interesting facts obtained. Fundamental effect of high

degree of reactant that with reaction (aggregation) for obtaining

1.0% constant purity and established and fair correspondence obtained

few replications results. Will try smaller amount where often control a

field period in which re transmission occurs.

Keep cultures have escaped tests with 1.0% mixture showing a progressive

change in type of virus during the course of immunization.

Allotriology: Apparently successful early passages but now appears to have been lost

some secondary phase areas of thymus spleen and the thymus like bodies in

salivary of thymus fibres.

October 17th 1926

Influence: Immunization paper in R.T. temp. fall. Absorption tests confirmed that

egg antibody can be removed without definite reduction of serum antibody.

in series of experiments formerly failed to give any adsorption by egg F or egg EHT.

The secondary reaction of ferric alum antibody after equilibration proceeds much

more slowly at 17°C than at 2°C.

Absorbed sera at 0°C shows a slow fall

the gums relatively well on dead eggs.

A human fluid cannot be absorbed free of egg antibody by egg on mouse film.

1. T. Diluted deaths are finally evoked to Egg 1.25.

Degrad Hct. This factor confirms work finds except that nice effect in continuous at R.T.

deposition in that equilibrium taking longer to be reached rather than

get reaction proceeds faster than in earlier experiments.

Backwash: 516 neutralization at 32°C under way; good antigenic curves

under standard limited conditions. Please send further experiments

indicating that testing power of passage is best just passage with neutralization

this apparent results with R.T. on the standard show no loss of
Eggs incubation period. Egg masses appear to be pathogenic for mice, forming body in eggs immune. Subsequent experiments show that egg masses may remove egg antibody alone or both. Practically complete except for those eggs tested. This is being prepared.

A study of variations presented with egg masses. The eggs have shown some increase, F10, 11, 12, 13, and 14, in F15. Further tests are in order.

Experiments on neutralization of duck eggs showed that peak point about 10% on raw egg. Some variation maintained in neutralization.

Flies human handling action of remy rats. Finders reaction of about 10% only with purified living.

Allergenic tests. These going consistently. No progression on rabbit skin to characteristic changes in guinea pig. - apparent 10% in rabbit fibres also in controls.

Thus far these with some difficulty: No reaction. Egg yolk reaction in neutralize.

Egg yolk may be infected by contact.

Work on frozen tissues on eggs of influenza-like virus. Subsequent log phase off, produces marked reaction in rabbit fibres. With hemolyzing factor and negative growth. May be specific. Further tests under way.

Experimental Rabbit

I Union rabbit on the egg directly from rabbit serum.

After a passage can be transplanted back to rabbit producing typical lesions. Histology not characteristic yet. Good correlation between but rather slow. Going to be done on egg white rabbit.

Rabbits family affected. Some wild Bilis involved. Positive case found from I.

Definite presence immunity of the grade I rabbit immune serum. Much more striking results noted. Rabbit serum matures are not unknown. Combinations made to be tested. Williams using rabbit sera & vaccines.

II Eggs recovered from frozen - directly obtaining immune on egg membrane.

Pregnant B hadn't been immunised. Immunological study temporarily abandoned until stocks are available. The result for two fluids gave the constant level type of reaction.
Bacteriophage. Bacteriophage.
April 1st 1937. [From returns from N.Z.]

The Semi R9 and Philadelphia viruses available and active in mice and guinea pigs. Some few passed on egg for 1 passage appears to be slowly becoming adapted to the chick embryo revealed for eggs.

Sera from work with some few show general agreement with that reported by Young et al and also contain anti-human for the all show detectable amounts of anti-rabbit antibody. Their lack of injury and chronicity present.

Antibody (human) not attacked by sera from marmoset.

Viruses multiplied with one dose of egg virus are not completely inactivated. Further tests of inactivating activity of egg for in utero and in vivo.

Rabbit sera immunized by single ip. injection with Francis mouse antibody.

Enzyme

The mouse protein paper confirmed. Urine was maintained for rabbit. No characteristic antibody, not thalid for embryo, some rabbit unreactive. Francis sera obtained without much difficulty others first cure.

Francis cultures treated with relatively small amounts of virus produce definite antibody. Neutralisation tested in rabbit skin show in eggs.

Serum passage on egg unsuccessful. Try again.

Rabbits C. F. from

Complete cross immunity tests between pig and mouse virus confirmed.

Some mice die with specific virus lesions. Some detectable in urine of mice.

Desirable irregularities in course of passage particularly in regard to demonstrable Rabies virus. Resuscitation of active serum well defined microscopically in cells.

Semen.

Further immunity experiment gave positive result and showed that intracerebral inoculation is much more lethal than in yolk obtained or in liver tissue.

Background.

Miss Beauma paper published. D.J. Exp. P. 76. Work well nephritic control P. 1. A.

e.g. Very well. Pure cultures propagated offered which gives similar test in human.

Semen P. 1. A. relationship is well shown with this also.

May 1st 1937

Influence: Egg few immunizes females against Philadelphia + R9 + is not contagious. Egg few immunizes mice against Philadelphia + but not against R9 + some of Francis. Rabbit immune sera available but not yet injected.

Complete inoculation using egg virus as antigen is working well
Both for meat & some egg uses. Few distinctions between ferret sera unimmunized with different types of virus. Rhinovirus strain shows practically no differences in reaction to serum + egg antigen.

Many human sera remain on egg in case of appearance of true epidemic this year. No virus available for comparison.

Some ferret appears to be gradually developing pathogenicity for egg + a few enough strains have been done

Commencement of immunization against the EH unventured stock. Any have made to far no disasters.

European strains, V.S. & B.H. Later ~ immunosorbent required a action.

Immunization

Study of neutralization details indicates no time effect or final curve in high serum zone and incomplete dissociation on dilution.

Serum incorporated in immunology monograph.

A ferret

Transfusion more regular and retaining of rhinovirus better.

Ferrets survive without any marked lesions on both egg and meat for at least 8 generations.

Inoculated to ferret produced typical lesions + serums and in 9 days immune to another strain of A.

Preliminary on insect reduced rhinovirus is assayed by immune monkey guinea pig and human (Pratt) serum.

Ferret serum: Blood fluid what virus treated with antigen. Rabbit serum is more actually effective producing larger gels and about 6 times as many.

Apparently there is a fairly definite steady increase in activity.

Carrick's Aderen fan - in experiment same type of result.

Human sera approximate much better when treated than when fresh.

May 21st 1934.

Influence

Some sera are discrete but not pathogenic for embryos yet. Estimation shows high specificity of ferret sera very well understood in children but at 3G in all adult sera so far tested.

Inferential results show adult human sera with. Less optical antigen concentrations against egg test. 200 Plaque - ferrets show large gel and none so does some antigens with all sera.

Blood indications of differences amongst the various strains available.

Ferret PR2 not group rabbit different but not quite sorted out.

Egg dilutions of ferret sera ~ more tests under way.

This immunized with 366 egg are immune at Philadelphia & so ferret PR2 immunosorbent V.S.
July 21, 1937

Influence - W.S. strain growing well on mice eggs and almost edible.

Influence - Virus isolated from sera of rabbits and guinea pigs used to confirm observations.

Influence - Virus isolated directly from human blood specimens.

Influence - Results inconsistent with previous observations.

July 25, 1937

Influence - U.S. rapidly became edible on egg and 15-20 passages.

Influence - All European strains fell into U.S. group and differentiation into 2 antigenic types of human sera was undertaken.

Influence - 10-15 cases of severe illness occurred in workers exposed to W.S. egg at 10th passage.

Influence - Polynucleic acid reaction in sera.

Influence - Virus isolated from sera of 10-15 year old children being treated with all 5 egg strains of P.I.A. paper

Influence - Agglutinating antibodies can be obtained from sera as well as from eggs.

Influence - Serum sera reacted: 5 strains good, 2 intermediate, 1 very good, 1 poor, 1 absent.

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**Dec 1st 1932**

**Progress**: Type differentiation by egg tests completed and paper to Adelaide.

Egg tests confirm that type 1 was immune to R. but not immune to D. Further work does not lead.

Complete tests and semi-embryos on sera of type 1, 10/16, also representative type 2 embryo (c) adult sera. High specificity of children confirmed.

Absorption of human sera with virus for 20s complete removal of both egg and mouse antibody.

Complete fixation paper completed and sent off. Some human sera show fixation & regression only.

We passage cultures still monophonic response in fluids and definitely demonstrate pathogenicity for mice.

**P.S.**

Local virus gives characteristic picture in monkeys.

Culture in fetal brain going relatively well. IV not so well as fetal brain keeping all multiplicity well and is a useful indicator of viability. Egg stage again.

Rheumatism can be grown very satisfactorily in chicken embryo fragments. Tissue culture. More detailed work under way.

Immunology monograph published.

**Dec 4th 1932**

**Progress**: Tissue and nature with 2 strains completed with umbilical cord and fetalis sera. Absorption of adult human sera with sera virus removes all types of antibody. Absorption of children's sera with sera does not remove umbilical sera. Paper completed.

Rheumatism of human tissue culture goes moderately well but is of little value. Apparently embryos must not be above a certain age.

Series of eggs on spread of type 1 virus through some under very using the egg membrane as infection medium. Only preliminary results so far.

Rheumatism culture in chick success has been very irregular, a proportion of plasters shows good growth in 1 day but no further growth in longer time, eggs approximate micro colonies of 1st list. Eggs in progress.

Agglutination of single series of salinated waters seen carried out with good yield of titers.

Limit infection in mice in progress.

**Backlog**: Attempt under way to obtain egg strain and antigen from some Italian strains. Difficulty arising arising in difficulty of distinguishing between P.I.A. and antigen.
U.S. egg strain after 50 passages highly resistant for egg, but still remains active for mice & guinea s apparently undetermined influence.

Summary of mice by K.55 confirmed in larger part with all Salter's results. Detailed study of K.55 in mice under cryo.-feds at 2 days in long cells passed to long form gland and in smaller amount in spleen. Good coagulation between egg and more determinations be carried so far for immediate milk cell but not confirmed. Indication of antibody formed is now doing fine.

Further work with K.75 shows much greater multiplication in long and negligible spread to 1.5 or guinea-feds at 2 days. Their proportion of mice died 7-13 days.

Predominant of many occurs after preliminary indication that early formation of antibody occurs in 1.5 or long.

One cell showed multiplication in longer embryo long.

Experiment on spread in 0.1% of mice practically completed. Invasion from peritoneum at usually by the cephalic route but not frequently goes in to allow any. Final conclusion on death in cephalic region and that a sudden phase although not. Heart rate which varied up. Infection varied in second and about 4-7 days with no or no conclusion. In two stages alive is usual cause in the preparative phase.

Focal lesions Local lesions on the frontal lobes in N.H.

Inoculation inoculation gives consistent results indicating bilateral foci with N.H. and delayed paralysis i.e. local lesion are showing paralytic paralysis as first signs. Robinson's disease pathology:

Examination of focal lesion of focal lesions Tonsil appears negative.

Inoculation under direction at Berkeley + colleagues ordered.

Before. Some evidence now going consistently with 14 day subculture.

Good of growth takes place in 6-12 day period presumably at expense of dead cells. Pathel remains much the dead pathelus, all infected tissues, which have been tried brain tissue skeletal tissues abdominal canal give little or no growth. Attempts to grow in frozen tissue with no way.

Note differences in mice rather irregular but definite evidence that lag period depends on the dose. Large amounts of antibody appears and are probably responsible for failure to subculture. Any calls going on some positive animal aggregations killed + one human.

Evidence of high proportion of laboratory infections obtained.
Nothing exciting from these many hybrid BALB/c mice. Jackson found no human antiserum with fully extensive neutral—was following course of antibody found in rabbits.

Hope: Most of these going poorly in mice and eggs attempts being made to develop by alternate egg + mouse i.e. passage. HT and HT always to be obtained from Thrall.

**Summary:** Results of serum immune serum showed significant antibodies against rhesus serum both by egg and rabbit tests.

**Thrift:** Bovine recently noticed results from inoculation of patients into mice—results not yet established.

**General:** First draft of defense against disease complete and second being edited; illustrations being made. News Handbook article and B.G. Exp. Ref. The outline have not yet appeared.

**20 Feb - 1935 (2 months)**

**Observations:** In immunized test positive—course of m.e. in mice is still staggering lack of serum multiplication and antibody appearance being apparently almost unimproved by extent of lesions. Dead mice 4th onward show no virus or significant amount. Early appearance of antibody in 4th group appears to be established.

**Serum culture:** Inoculated m.e. grows very well in liver but in no other host. M.e. in all tissues in one except particularly well in brain. US parallel does under way.

**English thank you.** avoir et ber arrived active. Fournar. Coming up on passage. Fewer mice confirm conclusion. B.S.R. acting on both mice + 109. 100 considerably below against m.e. than 59.

**Meeting at:** Paper to Adelaide.

**Domestic:** Foulin paper to M.H. Running house in order and preliminary work going on with 1st batch 160 more monkeys. Preliminary active to 1,100 but results in 59 no means considered.

**Paper:** Tissue culture paper completed. No growth in filtered brain. Contact with pathologist with multiple cases. Egg agitation works on about 500 culture mice regularly. From 12 premier Touchwood mice probably indicating natural recovery. Some human sera also good probably ability in mouse tests using 1190 virus.

**Hope 8 and Gambolines**

Because obtained from Thrall all goes well on the egg. Jackson using fermentation fluids brain derived in eggs and mice. But it is not a very satisfactory virus. To be obtained.
HF and P give most readily neutralized antibodies. Human adult sera with HF antibodies detected on egg also neutralize P. Rabbits sera being obtained. HRSF is constant in mice, P not.

J. Exp Med. 1935, C.5 indicate much more rapid primary response than with serum. Secondary response appears 84 and maximum at 16 days. Tissue Human Ebling for again not so successful as og.


July 31st, 1935

Influence of RF + WSR in mouse sera in mice.

Hemagglutination of RF + WSR in mouse sera in rabbit sera.

Immunity of sera neutralized mice in much less specific with IgG serum producing doses a high. Of dose is only 1:100.

Neutralization. MMG (except for no serum) failed and immunization given only in combination with good embryos. WSR with added serum as well. MMG will multiply in good embryos but not in other media.

Embryo data. Serum of 84 only one egg test confirm immunity. Both serum relatively neutralized in mice.

Happens and performances.

Two cases where rabbit sera have obtained instead for egg and rabbit respectively.

Comparative HF and P when in human sera nearly 10-100 X as much HF as P. Both not neutral = amounts. Mouse varying mouse both B and P antibodies in similar media.

With human sera the mouse serum [on Delinie's paper] is much more readily neutralized than well adapted MMG.

These help human serum B, C. are fully immune to MMG.

Pneumonia immunity in rabbit for embryos. No antibodies in human sera.

Spermatic immunity.

Chief result has been to show the inequality of detailed intrauterine infections made with human sera. Postmortem method with MS appears more promising.

9 fever. Broodstock sera show protection.

August 1st, 1935

Influence. Poor these have failed to multiply on egg membrane and in rat as well X5 in T.C.

Tests. Fusion of antibody-runs reaction nearly complete, only slight time effect and only incomplete reversibility. Human antibodies are very definitely well in setting practically between 10-115° and 0-01 media.
August 25

Eagle with gonorrhea gingiva from human autopsy underway. It was obtained by surgical intervention.

September 2

Results in dose (using synergistic antibiotics) indicates intracellular multiplication as upward to subcellular reactivation and in regularity and in length of the flight. Local immune response is unattainable. Results with pathos serum indicate that there is no correlation between M. type antibodies and paste thraving. Proper antibodies have no relation to this.

September 3

Virus isolated from human case in R.M. They proposed that mur kent found dying in wild game.

September 5

Various small papers & fed hungry. Skill only e positive handwork. Antibiotic response in rabbit being studied.

September 6

Gallons have completed primary secondary amplification response among very few. Antibiotic mice and rabbit mice indicate a virus antibody. Attempts to study African fever response correlated. Xenotic being continued.

September 7

Inoculation is to be repeated. Virus reaction, mixed antigen. Various paper or penman's theory of antibody production complete.

September 8

Infection. Three culture with less gumdis confirmed result with M.F. multiplying in other tissues.

September 9

Bar and set with fate to sustain passage on New Zealand. Attempt to identify specific location in progress. Rat is common. Mouse finger.

Antigen type of symptom reaction. Refer on specificity of active community complete.

September 10

Antibody of demonstrated symptom gland under way.

September 11

Examination of antibody paper being written. Main failure is the absence of reaction with skin, cerebrospinal fluid; ears particularly since failure of G.P.

Polyclonal antibodies resemble antibody, virus is different. Antibodies acquire long passage. Further examination postoperative metastasis but with encapsulation. This may be 1. Vials a pair preserved with no test or neural extension; virus distribution as to be expected. Various methods of immunization under consideration.

B. Monkey care. Both developed with good antibody without symptoms.

September 12

Rat and Jackson gave a poor response. Both developed 115. Reared by Jackson gave a poor response in mice.

September 13

Mouse mice rabbits have very mild and B. Apparently mouse died early & B. developed high level of antibody as well.

September 14

Antibiotic response in rabbit in 1 of vaccine primary phase - 1 no X 10.2 it significantly reduced.
October 4th, 1935

Influence: Some cultures still difficult to inoculate other cultures seem long after. Growth thin and irregular. Semi-synthetic of brow increasing slowly. Attempts to passage brow on embryonically conditioned soil all under way. Paper not accepted B.I.C.P.

Etc.: Preliminary work with eugomotyze shows extremely susceptible to weak virus by isometric multiplication. Tetragonolobus by B.B.N.


Summary in mime can be produced by subunited e.c. doses of H.F.E. and F.V.

also by 1/10 of H.F.

Virus multiplication stops shows rapid disappearance in 24 and progressive multiplication.

Serum small papules in H.F.

Second: Book referred to elsewhere.

November 4th, 1935

Influence: Some cultures experiments above very with procuring except for the cultures. No suggestion of seasonal differences. Brown reaction again not particularly different from original. Brown now growing slowly well on present admission.

Pathology: Presence susceptibility of eugomotyze confirmed. Not yet clear whether these cultures 2.7v. exist.

Report: Some cases in children in primary paratyphus infection known by absence of aciduria in first described cases. Typical cases from 4 cases.

Tested social occurrence in proportion of individuals showing antibody.

This controls show higher proportion react both males of similar age.

Humane vaccinated. Baken Ehrlich H.F antibody shown B. not susceptible to H.F.

B Browning strain of observed that relatively specific rabbit serum being made.

This treated with B. are immune to Rowe.

There is certain degree of immunity after vaccination to E at 3 and 5 days before antibody can developed.

Rabbits may be shown with immune rabbit serum very well effected with immune serum

Virus multiplication of E shows mild marked V curve. Some death even in absence of inoculated rabbits.

Report antibody appears early after central inoculation in rabbits.

As Rab's / Johnson comment paper definite slight change in virulence after 30 passages on eggs.
Erysipelas

Erysipelas may be expected where rapidly by something more accentuated on
in long infected tissue. In infected and susceptible, the adrenal area from 21 to 24 months later around. 90% patients
have latent skin activity in acute stage. These contacts have antibody neutralized when
no difference after control.

12 months old human and still highly infected for erysipeloid.

The serological difference (Cowdry sera) shows. True vs. M.V.

Larder of 10 shows marked deficiency of B agents antibody but no deficiency of
some for antibodies or antibodies.

Introduction

Several papers being completed. Their multiplication are easily infected and by slower
routes. Blood cultures negative in the acute phase.

Preliminary studies conducted by Peace in rabbit, from chronic, mainly confirmatory.

These antibodies present early in the acute phase becoming common.

Egg adapted M.V. and E. coli cultures 1-4 days.

Inoculation by

As possible

Possibility of the same agents and antiserum antibodies are produced in phagocytic
lymphocytes. In most animals, the blood contamination, but this
may be related to differences in primary, secondary response.

No antibodies are produced in the developing child. (Gulland)

Eggs. Other tissues: B in eggs do not adapt. Bees or more. Infection's relationship not known.

Test in infected patients. Indirect test. Erythrogenic pox practically complete. Erythrogenic pox,

paper obtained by J. Have human cases acquired by Direct.

Received 17th 1934

Erythrogenic: Erythrogenic early infected intradermally and by contact. The local
positions but not so clear about mechanism.

M.V. is lacking in all other studies. Due to normal.

Analysis of feet with those that appear differences in erythrogenic antibodies
are related to normal status rather than feet erythrogenic.

Eggs or other needed method: Use of erythrogenic antibodies for feet
and erythrogenic antibodies nearly normal.

Rabies: These usually along bodies until marked 12-3 day immunity following
accidental skin injection. This is being further developed.
March 1st, 1939.

Reported: Auditory cortex of dog now mostly 60. Further evidence of special mapping.

Frank pathology paper to J. R. Post.

Impressions: Adaptation of virus to egg while increasing efficiency.

Working & results ascertained from Audex. Virus appears to spread very readily on egg. Set is highly contagious.

Antibody production. Very little from Tissue-culture work.

Egg very poor on amount of amount. Allergen assay from record for 2 weeks.


April 21st, 1939.

Preparation: Serogen 36 mg. reconstitute as above. High susceptibility not now evident.

Engaged with new virus isolation passages in tissue. Very few positive cultures result.

Continued spread along wings in animals associated this situation.

Anthrax inoculation of normal time giving immunity of normal code in most.

Egg removed at product stage. 40-59 days. Throat area. Bird not marked.

Egg is much more active intrinsically than 125.

Papers still not read off.

Shipment: Vial has been practically depleted. Current paper published & Rickard article.

Infection: Same case almost complete adapted to egg after 100 days. Attempts to establish second strain failed.

Interested in developing same strain resistant strain at interesting stage possibly

Infection was found resistant at time strains inserted. Analysis indicates.

Evidence: Disease 2 times more 100% + Far different.

10E & SE showed no response to 12E iv. on one occasion. This suggested.

Liver infected, but ultimate result not evident. Analysis indicates.

Table:

<table>
<thead>
<tr>
<th>Virus</th>
<th>Deaths</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>12E</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>10E</td>
<td>90%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Egg 10E series being carried on without much helpful indication.

Attempts to alter antigen quantity reaction allowed. Positive control seen in few.

Keratin: Used as adhesively by various de-mounters, i.e., but passage fails.

Attempts to raise immunity by regular passage in guinea pigs.

Developed series in more than 5-6 days. Producing 10 symptoms and

more tendency of a delay. Proceed to 10 x produced with small doses,
April 29th 1939

A.5 eggs on Great Barrier. Whole only accumulations of antibody not
production. Experiments in vivo and demonstration of Bacterial + antiserum antibodies in urine.

Experiments on 20 guinea pigs under way to see whether monospecific experience of
activity production favors response in other antibody sera and also production of

B. 10 eggs + 10 eggs with egg yolk being released.

Culture: homogenate antibody production. *Deoxycholate* experiment. Blouin discussion of theory for

15-day 1st variety. 15-day 2nd variety. Both refused flask. Both yolk released. Repeat on previous

10 eggs + 10 eggs.

June 2nd 1939.

P.5 eggs and 8.5. By my second dilution, fully sensitized with passage May 1st
no clear reaction with any of these. Reaction in serial assay no antibody will

95 up to 9th reaction in 15-day 2nd variety.

V.I. Sugar - no sugar changes. Only 1/10 present in 15-day 1st variety

Add 2% 1%, 10% (all types) varying 2nd variety 6. Poor (consistent). Poise ?


Activity in serial assay 1/10. "Sulfuric" protein

Activity in serial assay above 1/100 and activity falls off rapidly on dilution

The activity is rapid. None in 1/10. "Sulfuric" protein.

As "Sulfuric" acid is decomposed at same range of action on organisms.

Activity reduced at 75° F. Not completely destroyed by 10° boiling

The "Sulfuric" acid with yolk only. Very gradual increase in activity: 0.5 mg shows

decomposing materials for cause of fever.

Home pressure

Second reaction strain of Thiel is due to an unidentified virus. Unfertilizable and not to
few cultivable on 10 eggs or strain given. Strain (unknown) produces small
circumferential bodies 0.3 μ with fine reactions of similarity to "Sulfuric" protein.

Sugar: 1 strain is received and active in guinea pigs - Purulent reaction

resulted in the poor assay as few trials. Very few cultures in course.

Death: 1 strain only. Preparing for development of more pathogenic.

Culture: eggs only. Is reacted except for a possible accumulation of residue if

Tests for guinea vials are approximate.

Examinations of all 2nd variety and numerous others antibody monospecific in nearly

50 eggs. Tomorrow is East St. Louis.