

- (a) M. Smegmatis - The pellicle material has, on surface and just below it, assumed a light orange colour, and the under-surface of the pellicle material that was growing in the broth had the appearance of miniature bushy white branches on short stalks. A small amount of material has sunk to bottom.
- (b) M. Phlei - The whole of the pellicle material is a marked orange colour and extends into the broth for some distance. A small amount has sunk.
- (c) M. of Moeller - The pellicle material is cream in colour, and extends into the broth. Very small amounts have sunk.
- (d) M. of Rabinowitz - The pellicle material is cream in colour. A small amount has sunk.

The broth in all cases is water-clear.

Pellicle material in the flasks - This was seeded out on 10/8/33, and the following is a description of the growths on 23/8/33 - 12 days later.

- (a) M. Smegmatis - The surface of the broth is entirely covered by the seed material and it has spread a short distance up the inner surface of the flask. The growing surface is wrinkled, showing well defined large folds; it is somewhat creamy in colour and not very thick. The growth has sunk in fair quantities and the immersed growth is breaking away from the surface of the flask.
- (b) M. Phlei - The surface of the broth is entirely covered by the seed material, and it has spread a short distance up the surface of the flask. The growing surface is irregular, and raised into very many irregular elevations; it is orange in colour and thick. Very little of the growth

has.../

has sunk but it is starting to break away from the inner surface of the flask. The surface of the growth is somewhat dry in appearance.

- (c) M. of Moeller - The surface of the broth is entirely covered by the seed material, and it has spread a short distance up the surface of the flask. The growing surface is a very fine wrinkled mass; the folds are thin and especially numerous; it is very pale brown in colour and fairly thick. A small amount of growth has sunk. The surface of the growth is fairly dry.
- (d) M. of Rabinowitz - The surface of the broth is entirely covered by the seed material and it has spread a short distance up the surface of the flask. The growing surface is irregularly wrinkled, being made up of large and small folds, which are thick and fine in appearance. It is cream coloured, thin and moist in appearance. A few lumps of growth have sunk.

In the case of all of these organisms, where a second batch was seeded out on 14/8/33 with thicker pellicle material, growth by the 23/8/33 was almost as good as those seeded on 10/8/33.

Actual Preparation of the 'Tuberculins' or Extracts.

On 1/9/33 work was started on all flasks. They had been steamed for a short while, the day previous, with the result, that all surface growth had sunk to the bottom in a thick mass and the supernatant liquid was quite clear. Filtration was carried out by means of small funnels and small filter papers. This was very slow and for each extract several filter papers had to be used. The filtrate in most cases was clear, but in some, a slight fine surface scum was noted. In these cases, another filtration was

carried.../

carried out and the filtrate, this time, was quite clear. These were now left 24 hours in an ice chest to see if any further deposit would be thrown down - they remained as before. Concentration to 1-10 strength was carried out in white porcelain evaporating dishes over a bunsen flame. The remaining liquid was now once more filtered into small bottles - this filtration only proceeded slowly on account of the liquid being somewhat thick in consistency. It was perfectly clear and the 'tuberculins' varied in colour from light to dark brown.

During the filtering off, of the killed organisms, the only ones that had any odour at all, were M. Rabinowitz and M. Smegmatis preparations.

In addition to the guinea pigs inoculated with acid-fast organisms, not M. Tuberculosis, other guinea pigs were infected with -

- (a) Diphtheroids from an infected udder;
- (b) Diphtheroids from a calf;
- (c) T.100 (a human strain) of M. Tuberculosis;
- (d) Br.abortus.

Extracts prepared from the acid-fast organisms, not M. Tuberculosis, were tested on all these artificially infected guinea pigs.

DATE 7/9/33 - Inoculated on 1/8/33.

CAGE 1 - GUINEA PIGS INFECTED WITH M.PHLEI
SUSPENDED IN LIQUID PARAFFIN

Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of extracts from acid-
fast organisms, not M. Tuberculosis.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	
Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	
D E A D			

INTRA-
PERITONEAL

Smegmatis		Phlei	
++	++	++	++
++	++	++	++
Rabinowitz		Moeller	
Moeller		Rabinowitz	
+ -	++	-	+
+ -	+ -	+	+
Phlei		Smegmatis	
D E A D			

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	
Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	
Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

SUB-
CUTANEOUS

Smegmatis		Phlei	
+	+ -	+ -	+ -
+	+	+	+
Rabinowitz		Moeller	
Rabinowitz		Moeller	
++	++	++	++
++	++	++	++
Smegmatis		Phlei	
Moeller		Rabinowitz	
+	+	+	+
+	+	+	+
Phlei		Smegmatis	

* 8/9/33. Reaction of M. Phlei in this guinea pig more marked.

RESULTS:

Reactions were given to all test Extracts.

Controls negative.

DATE 7/9/33. Inoculated 1/8/33.

CAGE 2 - GUINEA PIGS INFECTED WITH M.RABINOWITZ
SUSPENDED IN LIQUID PARAFFIN

Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of Extracts from
Acid-fast organisms not M.Tuberculosis.

INTRA-
PERITONEAL

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Smegmatis		Phlei	
++	++	++	++
++	++	++	++
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
++	++	+ -	+ -
++	++	++	++
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
D E A D			
Phlei		Smegmatis	

SUB-
CUTANEOUS

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Smegmatis		Phlei	
-	-	-	-
+ -	+ -	+ -	+ -
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
+	+	+	+
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
++	++	+	++
+	+	++	++
Phlei		Smegmatis	

* PHLEI reaction faded markedly 8/9/33.

RESULTS: Reactions were given to all test extracts.

In one guinea pig from the group injected subcutaneously, no reactions were given to Smegmatis and Phlei reagents, but in the other two guinea pigs the reactions were fairly marked.

DATE 7/9/33. Inoculated 1/8/33.

CAGE 3 - GUINEA PIGS INFECTED WITH M.SMEGMATIS
SUSPENDED IN LIQUID PARAFFIN

Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of Extracts from
Acid-fast organisms not M. Tuberculosis.

INTRA-
PERITONEAL

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Smegmatis		Phlei	
++	++	++	++
++	++	++	++
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
+ -	+ -	+ -	+ -
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
++	++	++	++
++	++	++	++
Phlei		Smegmatis	

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

SUB-
CUTANEOUS

Smegmatis		Phlei	
++	++	++	+ -
++	++	++	++
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
++	++	++	++
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
+	+	+	+
+ -	+ -	+	+
Phlei		Smegmatis	

8/9/33.

RESULTS: Reactions were given to all test extracts.

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DATE 7/9/33. Inoculated 1/8/33.

CAGE 4 - GUINEA PIGS INFECTED WITH MOELLER'S MIST BACILLUS SUSPENDED IN LIQUID PARAFFIN

 Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of extracts from acid-fast organisms not Bacillus Tuberculosis.

a.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

INTRA-PERITONEAL

Smegmatis		Phlei	
+	+	-	-
Rabinowitz		Moeller	

b.

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
Smegmatis		Phlei	

c.

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
++	++	+ -	+ -
Phlei		Smegmatis	

a.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

SUB-CUTANEOUS

Smegmatis		Phlei	
++	++	+	+
Rabinowitz		Moeller	

b.

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
Smegmatis		Phlei	

c.

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
+	+	+	+
Phlei		Smegmatis	

RESULTS: In the case of guinea pigs injected by the Intraperitoneal route, reactions were slight except in No. c, i.e. Moeller extract against Moeller infected guinea pigs.

In the case of guinea pigs injected by the Subcutaneous route, reactions were slight except in No. a, i.e. Smega Bacillus extract against Moeller infected guinea pigs.

To sum up reactions with all extract were slight.

DATE 7/9/33. Inoculated 1/8/33.

CAGE 5 - GUINEA PIGS INFECTED WITH A STRAIN OF
C.PREIZ-NOCARD ISOLATED FROM A HORSE

Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of Extracts from
Acid-fast organisms not M.Tuberculosis.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

INTRA-
PERITONEAL

Smegmatis		Phlei	
—	—	—	—
—	—	—	—
Rabinowitz		Moeller	

Rabinowitz		Moeller	
—	—	—	—
—	—	—	—
Smegmatis		Phlei	

Moeller		Rabinowitz	
—	—	—	—
—	—	—	—
Phlei		Smegmatis	

SUB-
CUTANEOUS

Smegmatis		Phlei	
—	—	—	—
—	—	—	—
Rabinowitz		Moeller	

Rabinowitz		Moeller	
DEAD			
Smegmatis		Phlei	

Moeller		Rabinowitz	
—	—	—	—
—	—	—	—
Phlei		Smegmatis	

RESULTS:

No reactions given to any of the test extracts.

DATE 7/9/33 - Inoculated 1/8/33.

CAGE 6 - GUINEA PIGS INFECTED WITH A STRAIN OF C. PREIZ-NOCARD ISOLATED FROM A SHEEP

Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of Extracts from Acid-fast organisms not M. Tuberculosis.

a.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Smegmatis		Phlei	
—	—	—	—
+—	+—	+—	+—
Rabinowitz		Moeller	

SUB-CUTANEOUS

b.

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
+	+	+	+
+	+	+	+
Smegmatis		Phlei	

c.

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
—	—	—	—
—	—	—	—
Phlei		Smegmatis	

a.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Smegmatis		Phlei	
—	—	—	—
—	—	—	—
Rabinowitz		Moeller	

INTRA-PERITONEAL

b.

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
—	—	—	—
—	—	—	—
Smegmatis		Phlei	

c.

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
—	—	—	—
—	—	—	—
Phlei		Smegmatis	

RESULTS:

Slight reactions were given in two guinea pigs of the group that were inoculated subcutaneously, but by the following day, these had completely faded.

DATE 7/9/33. Inoculated 1/8/33.

CAGE 7 - GUINEA PIGS INFECTED WITH C.PYOGENES

Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of Extracts from Acid-fast organisms not M. Tuberculosis.

	Smegmatis		Phlei	
	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
a.	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
	Rabinowitz		Moeller	

	Smegmatis		Phlei	
	—	—	—	—
	—	—	—	—
	Rabinowitz		Moeller	

	Rabinowitz		Moeller	
	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
b.	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
	Smegmatis		Phlei	

	Rabinowitz		Moeller	
	+	+	+	+
	—	—	—	—
	Smegmatis		Phlei	

	Moeller		Rabinowitz	
	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
c.	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
	Phlei		Smegmatis	

	Moeller		Rabinowitz	
	+ -	+ -	+ -	+ -
	+ -	+ -	+ -	+ -
	Phlei		Smegmatis	

	Smegmatis		Phlei	
	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
a.	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
	Rabinowitz		Moeller	

	Smegmatis		Phlei	
	+ -	+ -	+ -	+ -
	+ -	+ -	+ -	+ -
	Rabinowitz		Moeller	

	Rabinowitz		Moeller	
	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
b.	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
	Smegmatis		Phlei	

	Rabinowitz		Moeller	
	—	—	—	—
	—	—	—	—
	Smegmatis		Phlei	

	Moeller		Rabinowitz	
	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
c.	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
	Phlei		Smegmatis	

	Moeller		Rabinowitz	
	—	—	—	—
	—	—	—	—
	Phlei		Smegmatis	

RESULTS: Slight reactions in 2 guinea pigs of intraperitoneal group, and in 1 of subcutaneous group.

CONTROLS

	Smegmatis		Phlei	
	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
	Rabinowitz		Moeller	

	Smegmatis		Phlei	
	—	—	—	—
	—	—	—	—
	Rabinowitz		Moeller	

RESULTS: No reactions in controls.

DATE 11/9/33.

CAGES I & J - GUINEA PIGS INFECTED WITH A DIPHTHEROID ISOLATED FROM AN UDDER OF A COW

 Tested with $\frac{1}{50}$ and $\frac{1}{100}$ dilutions of Extracts from Acid-fast organisms not Bacillus Tuberculosis.

Smegmatis		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

SUB-CUTANEOUS

Smegmatis		Phlei	
+ -	+ -	—	—
+ -	+ -	+ -	+ -
Rabinowitz		Moeller	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
+ -	+ -	+ -	+ -
Smegmatis		Phlei	

INTRA-PERITONEAL

Smegmatis		Phlei	
—	—	—	—
—	—	—	—
Rabinowitz		Moeller	

Rabinowitz		Moeller	
—	—	—	—
—	—	—	—
Smegmatis		Phlei	

RESULTS:

Doubtful or very slight reactions were given to test extracts in the case of guinea pigs inoculated by the Subcutaneous route.

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DATE 11/9/33.

CAGE G & H - GUINEA PIGS INFECTED WITH DIPHTHEROID
ISOLATED FROM A CALF

 Tested with dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of Extracts from
 Acid-fast organisms not Bacillus Tuberculosis.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

SUB-
CUTANEOUS

Smegmatis		Phlei	
+	+	—	—
+	+	+	+
Rabinowitz		Moeller	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
+ -	+ -	+ -	+ -
Smegmatis		Phlei	

Moeller		Rabinowitz	
+ -	+ -	+ -	+ -
+ -	+ -	+ -	+ -
Phlei		Smegmatis	

Smegmatis		Phlei	
—	—	—	—
+ -	—	—	—
Rabinowitz		Moeller	

Rabinowitz		Moeller	
+ -	+ -	+ -	+ -
+ -	+ -	—	—
Smegmatis		Phlei	

Moeller		Rabinowitz	
—	—	—	—
—	—	—	—
Phlei		Smegmatis	

INTRA-
PERITONEALRESULTS:

Doubtful or very slight reactions were given to test extracts in the case of guinea pigs inoculated by the Subcutaneous route.

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DATE 11/9/33.

CAGE K - GUINEA PIGS INFECTED INTRAMUSCULARLY
WITH A HUMAN STRAIN OF M.TUBERCULOSIS - T.100

Tested with dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of extracts from
Acid-fast organisms not *Mycobacterium Tuberculosis*.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Smegmatis		Phlei	
+	+ -	+ -	+ -
+	+	++	+
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

Rabinowitz		Moeller	
+	+	+	+
+	+	+ -	+ -
Smegmatis		Phlei	

Moeller		Rabinowitz	
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
Phlei		Smegmatis	

Moeller		Rabinowitz	
+	+	+ -	+ -
+ -	+ -	+ -	+
Phlei		Smegmatis	

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Smegmatis		Phlei	
—	—	—	—
—	—	—	—
Rabinowitz		Moeller	

RESULTS: Very slight reactions to test extracts in three
out of four guinea pigs.

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DATE 11/9/33.

CAGE L - GUINEA PIGS INFECTED SUBCUTANEOUSLY WITH
A STRAIN OF BR.ABORTUS

 Tested with $\frac{1}{50}$ to $\frac{1}{100}$ dilutions of Extracts from Acid-
 fast organisms not Bacillus Tuberculosis.

Smegmatis		Phlei	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Rabinowitz		Moeller	

Rabinowitz		Moeller	
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{100}$
Smegmatis		Phlei	

SUB-
CUTANEOUS

Smegmatis		Phlei	
+ -	+ -	+ -	+ -
+ -	+ -	+ -	+ -
Rabinowitz		Moeller	

Rabinowitz		Moeller	
—	—	—	—
—	—	—	—
Smegmatis		Phlei	

RESULTS: Doubtful reactions in the case of one guinea pig.

S U M M A R Y

From this experiment it would appear as if the Extracts made from M. Phlei, the Butter bacillus of Rabinowitz, Moeller's Mist Bacillus and the Smegma Bacillus - all acid-fast organisms - have something common to all members of this group as is shown by the cross intradermal reactions. The extract of any one member, e.g. Smegma bacillus extract, is not specific for its own organism, i.e. Smegma bacillus.

No definite reactions were given with these Extracts when tested against M. Tuberculosis infected guinea pigs. The same applies to guinea pigs infected with the Preiz-Nocard organism, Diphtheroid organisms or Br.abortus.

The extracts are evidently specific only for members of their own group of organisms and for no others.

It was decided to repeat the former experiment using dilutions of the Extracts made from this group of acid-fast organisms not M. Tuberculosis, and similar dilutions of Tuberculin.

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More guinea pigs were now taken and inoculated in the same manner with acid-fast organisms (not M.Tuberculosis).

DATE OF INOCULATION 30/10/33.

Age:	No. of G. Pigs used	Channel of Artificial Infection	Emulsion used and Amount
A.	3	Subcutaneous	M.Phlei + Liquid Paraffin 1 c.c.
	3	Intraperitoneal	M.Phlei + Liquid Paraffin 1 c.c.
	3	Controls	Controls
B.	3	Subcutaneous	M.Rabinowitz + Liquid Paraffin 1 c.c.
	3	Intraperitoneal	M.Rabinowitz + Liquid Paraffin 1 c.c.
	3	Controls	Controls
C.	3	Subcutaneous	M.Smegmatis + Liquid Paraffin 1 c.c.
	3	Intraperitoneal	M.Smegmatis + Liquid Paraffin 1 c.c.
	3	Controls	Controls
D.	3	Subcutaneous	B. of Moeller (Mist) + Liquid Paraffin 1 c.c.
	3	Intraperitoneal	B. of Moeller (Mist) + Liquid Paraffin 1 c.c.
	3	Controls	Controls
E.	3	Subcutaneous	M.Phlei from lesions + Liquid Paraffin 1 c.c.
	3	Intraperitoneal	M.Phlei from lesions + Liquid Paraffin 1 c.c.
	3	Controls	Controls
F.	3	Subcutaneous	M.Rabinowitz from lesions + Liquid Paraffin 1 c.c.
	3	Intraperitoneal	M.Rabinowitz from lesions + Liquid Paraffin 1 c.c.
	3	Controls	Controls

Controls were placed in the same cages as their respective groups of inoculated guinea pigs.

DATE 27/11/33. Inoculated 30/10/33.

CAGE A - GUINEA PIGS INFECTED WITH M.PHLEI
SUSPENDED IN LIQUID PARAFFIN

Tested with $\frac{1}{50}$ dilutions of Extracts from Acid-fast organisms not M.Tuberculosis and dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of Tuberculin.

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

INTRA-
PERI-
TONEAL

Smegma	Phlei	Rabino	Moeller
+	+	+	+
+	+		
T.B.	T.B.		

Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

Moeller	Phlei	Rabino	Smegma
+ -	+	+ -	+ -
+	+ -		
T.B.	T.B.		

Phlei	T.B.	T.B.	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{50}$		
Rabino	Moeller		

Phlei	T.B.	T.B.	Smegma
+ -	+	+ -	+
+	+		
Rabino	Moeller		

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

SUB-
CU-
TANEOUS

Smegma	Phlei	Rabino	Moeller
D I E D			
T.B.	T.B.		

Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

Moeller	Phlei	Rabino	Smegma
—	—	—	—
—	—		
T.B.	T.B.		

T.B.	T.B.	Moeller	Smegma
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{50}$		
Phlei	Rabino		

T.B.	T.B.	Moeller	Smegma
—	—	+ -	+ -
+ -	+ -		
Phlei	Rabino		

RESULTS: Reactions were obtained with all extracts but only in those guinea pigs that were injected intraperitoneally. Reactions were also given to the Tuberculin (Standard) in three guinea pigs.

DATE 27/11/33. Inoculated 30/10/33.

CAGE B - GUINEA PIGS INFECTED WITH M.RABINOWITZ
SUSPENDED IN LIQUID PARAFFIN

Tested with dilutions of $\frac{1}{50}$ of Extract from Acid-fast organisms not M. Tuberculosis and dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of Tuberculin.

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$ T.B.	$\frac{1}{100}$ T.B.		

INTRA-
PERI-
TONEAL.

Smegma	Phlei	Rabino	Moeller
—	—	—	—
— T.B.	— T.B.		

Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$ T.B.	$\frac{1}{100}$ T.B.		

Moeller	Phlei	Rabino	Smegma
—	—	—	—
— T.B.	— T.B.		

Phlei	T.B.	T.B.	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$
$\frac{1}{50}$ Moeller		$\frac{1}{50}$ Smegma	

Phlei	T.B.	T.B.	Rabino
—	+—	+—	—
— Moeller		— Smegma	

Smegma	Moeller	Rabino	Phlei
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$ T.B.	$\frac{1}{100}$ T.B.		

SUB-
CU-
TANEOUS

Smegma	Moeller	Rabino	Phlei
+—	+—	+	—
— T.B.	— T.B.		

Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$ T.B.	$\frac{1}{100}$ T.B.		

Moeller	Phlei	Rabino	Smegma
—	—	+	++
— T.B.	— T.B.		

RESULTS:

Very slight reactions were given, probably due to the guinea pigs not being properly sensitised.

DATE 27/11/33. Inoculated 30/10/33.

CAGE C - GUINEA PIGS INFECTED WITH SMEGMATIS
SUSPENDED IN LIQUID PARAFFIN

Tested with dilutions of $\frac{1}{50}$ of Extracts from Acid-fast organisms not M. Tuberculosis and dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of Tuberculin.

Smegma	Moeller	Phlei	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		
T.B.	T.B.	Smegma	Moeller
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{50}$		
Phlei	Rabino		

INTRA-
PERI-
TONEAL

Smegma	Moeller	Phlei	Rabino
++	+	+	++
—	—		
T.B.	T.B.		
T.B.	T.B.	Smegma	Moeller
+—	+—	++	++
++	++		
Phlei	Rabino		

Smegma	Phlei	Moeller	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		
T.B.	T.B.	Smegma	Phlei
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{50}$		
Moeller	Rabino		

SUB-
CU-
TANEOUS

Smegma	Phlei	Moeller	Rabino
+	+	+	+
—	—		
T.B.	T.B.		
T.B.	T.B.	Smegma	Phlei
—	—	++	++
++	++		
Moeller	Rabino		

RESULTS:

Reactions throughout but none with Tuberculin.

DATE 27/11/33. Inoculated 30/10/33.

CAGE D - GUINEA PIGS INFECTED WITH THE MIST
BACILLUS OF MOELLER SUSPENDED IN LIQUID PARAFFIN

Tested with dilutions of $\frac{1}{50}$ of Extracts from Acid-fast organisms not M. Tuberculosis and dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of Tuberculin.

Smegma	Moeller	Phlei	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

INTRA-
PERI-
TONEAL

T.B.	T.B.	Smegma	Moeller
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{50}$		
Phlei	Rabino		

Rabino	Phlei	Moeller	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

Smegma	Moeller	Phlei	Rabino
+	+	+	+
—	—		
T.B.	T.B.		

T.B.	T.B.	Smegma	Moeller
—	—	—	—
—	—		
Phlei	Rabino		

Rabino	Phlei	Moeller	Smegma
+	+	+	+
—	—		
T.B.	T.B.		

Smegma	Moeller	Phlei	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

SUB-
CU-
TANEOUS

Smegma	Moeller	Phlei	Rabino
++	++	++	++
—	—		
T.B.	T.B.		

RESULTS:

Slight reactions in the guinea pigs inoculated by the intraperitoneal route, but very marked in the guinea pigs inoculated by the subcutaneous route. No reactions were given to Tuberculin.

DATE 27/11/33 - Inoculated 30/10/33.

CAGE E - GUINEA PIGS INOCULATED WITH M.PHLEI
SUSPENDED IN LIQUID PARAFFIN

(This strain of M. Phlei was isolated from lesions in a guinea pig infected artificially with M.Phlei).

Tested with dilutions of $\frac{1}{50}$ of Tuberculins from Acid-fast organisms not M. Tuberculosis and dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of Tuberculin.

Smegma	Moeller	Phlei	Rabino		Smegma	Moeller	Phlei	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	INTRA-PERITONEAL	++	++	++	++
$\frac{1}{50}$ T.B.	$\frac{1}{100}$ T.B.				+	+		
				SUB-CUTANEOUS				
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		++	++	++	++
$\frac{1}{50}$ T.B.	$\frac{1}{100}$ T.B.				+	+		
T.B.	T.B.	Smegma	Moeller		T.B.	T.B.	Smegma	Moeller
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{50}$	—	—	+	+	
$\frac{1}{50}$ Phlei	$\frac{1}{50}$ Rabino			+	+			
Rabino	Phlei	Moeller	Smegma					
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	+	+	+	++	
$\frac{1}{50}$ T.B.	$\frac{1}{100}$ T.B.			—	—			
				T.B.	T.B.			

RESULTS:

Good reactions with all test extracts were obtained. As in the guinea pigs infected with M. Phlei from Cage A of this experiment, reactions although not marked, were given to Tuberculin.

DATE 27/11/33. Inoculated 30/10/33.

CAGE F - GUINEA PIGS INFECTED WITH M.RABINOWITZ
SUSPENDED IN LIQUID PARAFFIN

This strain of the Bacillus was obtained from lesions in a guinea pig infected artificially with M.Rabinowitz.

Tested with dilutions of $\frac{1}{50}$ of Extracts from Acid-fast organisms not M.Tuberculosis and dilutions of $\frac{1}{50}$ and $\frac{1}{100}$ of Tuberculin.

Smegma	Moeller	Rabino	Phlei
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

T.B.	T.B.	Smegma	Moeller
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{50}$		
Rabino	Phlei		

Rabino	Phlei	Moeller	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

Smegma	Moeller	Rabino	Phlei
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

T.B.	T.B.	Smegma	Moeller
$\frac{1}{50}$	$\frac{1}{100}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{50}$		
Rabino	Phlei		

Rabino	Phlei	Moeller	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

INTRA-
PERI-
TONEAL

SUB-
CU-
TANEOUS

Smegma	Moeller	Rabino	Phlei
+	+	+	+
+	+	+	+
T.B.	T.B.		

T.B.	T.B.	Smegma	Moeller
-	-	++	+
+	+	+	+
Rabino	Phlei		

Rabino	Phlei	Moeller	Smegma
-	-	-	-
-	-	-	-
T.B.	T.B.		

Smegma	Moeller	Rabino	Phlei
-	-	-	-
-	-	-	-
T.B.	T.B.		

T.B.	T.B.	Smegma	Moeller
-	-	+	+
-	-	+	+
Rabino	Phlei		

Rabino	Phlei	Moeller	Smegma
+	+	+	+
-	-	-	-
T.B.	T.B.		

RESULTS: Reactions were not marked but no reactions were given to Tuberculin.

C O N T R O L

Smegma	Moeller	Rabino	Phlei
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	$\frac{1}{100}$		
T.B.	T.B.		

Smegma	Moeller	Rabino	Phlei
-	-	-	-
-	-	-	-
T.B.	T.B.		

RESULTS: Negative.

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SUMMARY:

These results confirmed those obtained in the previous experiment. No reactions were given to Tuberculin except slight ones in the case of guinea pigs infected with M. Phlei.

In order to end up this work it was decided to utilize the guinea pigs that had recovered from the test of 30/10/33. These were again tested with the extracts prepared from the group of acid-fast organisms used throughout this work, and a preparation called Anaexo-Phlein prepared from the M. Phlei. This preparation was made on the same lines as Anaexo-Tuberculin as described by Garet and Zeitoun (1933) Rec. de Med. Vet de l'Ecole Alfort. 109 - 9 - 513-18. L'anaexotuberculine.

The preparation is as follows:-

A human or bovine strain of Bacillus Tuberculosis is grown on 5% glycerine peptone broth for 4 to 6 weeks. The broth of the culture below the scum, formed by the growth, is collected by very slow aspiration, by introducing a pipette very carefully below the pellicle growth of the bacilli. The liquid obtained should be clear and free from fragments of pellicle, which should be left intact. Filter this clear liquid and add .5% Formalin. Dose for cattle .25 cubic centimetres for intradermal test.

This was reviewed in the Veterinary Record No. 48 Volume XIII of December 2nd, 1933.

DATE 4/1/34. Inoculated 30/10/33.

CAGE A - GUINEA PIGS INOCULATED WITH M. PHLEI
SUSPENDED IN LIQUID PARAFFIN

Tested with $\frac{1}{50}$ dilutions of Extracts from acid-fast organisms not M. Tuberculosis and Anaexo Phlein.

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	Phlei (1)		

INTRA-
PERI-
TONEAL

Smegma	Phlei	Rabino	Moeller
++	++	++	++
Phlei (1)			
++ (cent.necr.)			

Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	Phlei (1)		

Moeller	Phlei	Rabino	Smegma
++	++	++	++
Phlei (1)			
++			

Phlei	Phlei(1)	Smegma	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	Moeller		

SUB-
CU-
TANEOUS

Phlei	Phlei(1)	Smegma	Rabino
—	—	—	—
Moeller			
—			

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$	Phlei (1)		

Smegma	Phlei	Rabino	Moeller
++	++	++	++
Phlei (1)			
++ (Cent.necr.)			

The site of injection of Anaexo-Phlein is marked Phlei (1).

RESULTS:

Marked reactions with all test extracts and especially with Anaexo-Phlein, which showed in two of the guinea pigs, a central necrosis of the skin.

DATE 4/1/34 - Inoculated 30/10/33.

CAGE B - GUINEA PIGS INOCULATED WITH M. RABINOWITZ
SUSPENDED IN LIQUID PARAFFIN

Tested with $\frac{1}{50}$ dilutions of Extracts from acid-fast organisms not M. Tuberculosis and Anaexo-Phlein.

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei (1)			

INTRA-
PERI-
TONEAL

Smegma	Phlei	Rabino	Moeller
+ -	+ -	+ -	+ -
Phlei (1)			
+ -			

Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei (1)			

Moeller	Phlei	Rabino	Smegma
+ -	+ -	+ -	+ -
Phlei (1)			
+ -			

Phlei	Phlei(1)	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Smegma			

SUB-
CU-
TANEOUS

Phlei	Phlei(1)	Rabino	Moeller
+ -	+ -	+ -	+ -
Smegma			
+ -			

Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei (1)			

Moeller	Phlei	Rabino	Smegma
—	—	—	—
Phlei (1)			
—			

RESULTS:

No reactions marked. Results inconclusive.

DATE 4/1/34. Inoculated 30/10/33.

CAGE C - GUINEA PIGS INOCULATED WITH M.SMEGMATIS
SUSPENDED IN LIQUID PARAFFIN

Tested with dilutions $\frac{1}{50}$ of Extracts of Acid-fast organisms not M.Tuberculosis and Anaexo-Phlein.

Smegma	Phlei	Rabino	Moeller		Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	INTRA- PERI- TONEAL	+	+	+	+
$\frac{1}{50}$	Phlei (1)				(Phlei (1))			
					+			
Moeller	Phlei	Rabino	Smegma		Moeller	Phlei	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		+	+	+	+
$\frac{1}{50}$	Phlei (1)				(Phlei (1))			
					+			
Smegma	Phlei	Rabino	Moeller	SUB- CU- TANEOUS	Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		+	+	+ -	+
$\frac{1}{50}$	Phlei (1)				(Phlei (1))			
					+			
Moeller	Phlei(1)	Smegma	Phlei		Moeller	Phlei(1)	Smegma	Phlei
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		—	—	—	—
$\frac{1}{50}$	Rabino				(Rabino)			
					—			

RESULTS:

Slight reactions with all test reagents.

DATE 4/1/34. Inoculated 30/10/33.

CAGE D - GUINEA PIGS INOCULATED WITH MOELLER'S
MIST BACILLUS SUSPENDED IN LIQUID PARAFFIN

Smegma	Phlei	Rabino	Phlei(1)
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Moeller			

Moeller	Rabino	Phlei(1)	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei			

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei			

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei (1)			

INTRA-
PERI-
TONEAL

Smegma	Phlei	Rabino	Phlei(1)
—	—	—	—
Moeller			
—			

Moeller	Rabino	Phlei(1)	Smegma
—	—	—	—
Phlei			
—			

Phlei(1)	Smegma	Rabino	Moeller
—	—	—	—
Phlei			
—			

SUB-
CU-
TANEOUS

D E A D

RESULTS:

Negative.

DATE 4/1/34 - Inoculated 30/10/33.

CAGE E - GUINEA PIGS INOCULATED WITH M.PHLEI
SUSPENDED IN LIQUID PARAFFIN

This strain of M. Phlei was obtained
from a guinea pig artificially infected
with M. Phlei.

Tested with dilutions $\frac{1}{50}$ of Extracts of Acid-fast
organisms not M. Tuberculosis and Anaexo-Phlein.

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei (1)			

INTRA-
PERI-
TONEAL

Smegma	Phlei	Rabino	Moeller
+	+	+	+
Phlei (1)			
++ (Cent.necrosis)			

Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei (1)			

SUB-
CU-
TANEOUS

Smegma	Phlei	Rabino	Moeller
+	+	—	—
Phlei (1)			
—			

Phlei	Phlei(1)	Rabino	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Moeller			

Phlei	Phlei(1)	Rabino	Smegma
—	—	—	—
Moeller			
—			

Rabino	Moeller	Phlei	Smegma
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$
$\frac{1}{50}$			
Phlei (1)			

Rabino	Moeller	Phlei	Smegma
+—	+—	+—	+—
Phlei (1)			
+—			

RESULTS:

Reactions were obtained with all test extracts
used. Marked reactions were seen with the
Anaexo-Phlein used on guinea pigs inoculated with
M. Phlei by the intraperitoneal route.

DATE 4/1/34 - Inoculated 30/10/33.

CAGE F - GUINEA PIGS INOCULATED WITH M.RABINOWITZ
SUSPENDED IN LIQUID PARAFFIN

This strain was obtained from lesions in a guinea pig artificially infected with M. Rabinowitz.

Tested with $\frac{1}{50}$ dilutions of Extracts of Acid-fast organisms not M.Tuberculosis and Anaexo-Phlein.

Smegma	Phlei	Rabino	Moeller		Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	INTRA-PERITONEAL	—	—	—	—
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		Phlei (1)			
Phlei (1)					—			
Phlei	Rabino	Smegma	Phlei(1)		Phlei	Rabino	Smegma	Phlei(1)
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		+	+	+-	—
$\frac{1}{50}$					Moeller			
Moeller					+			
Rabino	Smegma	Phlei	Moeller		Rabino	Smegma	Phlei	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		—	+	—	+
$\frac{1}{50}$					Phlei (1)			
Phlei (1)					—			
Smegma	Phlei	Rabino	Moeller		Smegma	Phlei	Rabino	Moeller
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	SUB-CUTANEOUS	+	+-	+	+-
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$		Phlei (1)			
Phlei (1)					+-			
Phlei	Rabino	Moeller	Smegma		D I E D			
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$					
$\frac{1}{50}$								
Phlei (1)								

RESULTS: Slight reactions with all test reagents.

C O N T R O L

Phlei(1)	Moeller	Smegma	Rabino	Phlei(1)	Moeller	Smegma	Rabino
$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	$\frac{1}{50}$	—	—	—	—
$\frac{1}{50}$				Phlei			
Phlei				—			

RESULTS: Negative.

SUMMARY: This experiment also confirms work done in the two previous experiments. The reactions obtained by the use of so-called 'Anaexo-Phlein' seems to indicate that this testing agent contains something that is specific for its own organism as judged by the reaction given in guinea pigs artificially infected with M. Phlei.

CONCLUSIONS:

1. A sufficient degree of infection with the organism of Tuberculosis can be set up, by artificial means, to give reactions with Tuberculin within from 24 to 30 days. This means, that the period of 6 - 8 weeks usually undergone by subjects, injected with suspicious Tubercular material, can be shortened by testing the subject and a control, in from 24 to 30 days, thus expediting results of tests.
2. Animals infected with Br.abortus may give strongly suspicious Tubercular reactions with Tuberculin.
3. Reactions strongly suspicious of Positive Tuberculous reactions have been observed in cattle that were pregnant and close to the time of parturition. A similar case was observed in a control guinea pig.
4. Guinea pigs infected with Acid-fast organisms which were not strains of M.Tuberculosis did not give reactions when tested with Tuberculin by the Intra-dermal method.
5. Extracts prepared from Acid-fast organisms, not belonging to the M.Tuberculosis group, in the same way as Standard Tuberculin is prepared, appear to contain something common to all members of this group that gives reactions when tested against small animals artificially infected with separate member of this group.
6. Extracts prepared on the lines of L'anaexo-Tuberculin' may contain products that are specific for each member of the Acid-fast group of organisms.