

THE SARANAC LABORATORY  
FOR THE STUDY OF TUBERCULOSIS  
OF THE EDWARD L. TRUDEAU FOUNDATION  
SARANAC LAKE, N.Y.

March 28, 1945

Dr. L. E. Hamlin  
Medical Department  
American Brake Shoe Company  
2501 Blue Island Avenue  
Chicago 8, Illinois

RE: Experiments on Burner Dusts

Dear Ham:

Pursuant to our conversation in Chicago on March 21 on the subject of the causes of the rapidly appearing nodular shadows in the films of your foundry employees I would suggest the following program of animal experimentation. This is essential to reconcile an X-ray appearance simulating silicosis with a dust which apparently contains too little silica to produce this disease in short periods of time.

1. Preliminary injection tests on 6 rabbits and 12 guinea pigs would be made to determine the potentialities of ~~burner dust~~ *quartz* to irritate living tissue and provoke reaction.

2. Expose a group of 200 guinea pigs, 50 white rats and 12 rabbits to high atmospheric concentrations of dust collected from your plant.

Exposures to be continued 8 hours daily, 6 days a week over a period of 2 or possibly 3 years. According to our routine procedure the animals would remain in the dusting room during the night and would then continue to breathe appreciable amounts of dust.

3. At suitable intervals during the course of the exposure, the lungs of selected members of each species under test would be X-rayed to determine whether nodular shadows developed.

4. Sacrifice of animals at successive intervals during the course of the exposure would permit comparison between anatomic changes in the lungs and the X-ray shadows and would establish the amounts of silica, iron and manganese in the tissues.

5. One-quarter of the originally exposed guinea pigs, 40 in number, would be infected with attenuated tubercle bacilli the day before they were placed in the dusting room. The evolution of the infection in them would determine whether this dust acted like pure quartz to activate the tuberculosis and produce tuberculo-silicosis. A like number of infection controls, not exposed to dust would be kept in normal atmosphere to be sacrificed at intervals with members of the dusted group.



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