49. The size-frequency of the components of atmospheric dust collected inside the animal cages with the electrostatic apparatus is reported in Table 11. Two samples were taken, one before the wire brushes were installed and one after. It will be noted that after the wire brushes were in use a greater proportion of very fine particles and also of longer fibers was released into the air.

50. Reaction in Animals to Inhaled 100 Per Cent Ball-Milled Asbestos Dust. Guinea pigs, rats and mice were used in the inhalation experiment with the 100 per cent ball-milled asbestos dust. The results are summarized in Table 12.

51. Guinea Pigs. The experiment was started with 100 guinea pigs. As the dust exposure proceeded, there were 39 accidental deaths, 32 of pneumonia in an epidemic. After 20 months of dusting the 16 surviving guinea pigs were transferred to normal air.

52. Rate and Type of Reaction. For the first year of exposure practically the only reaction to the dust was the presence of scattered phagocytes and an occasional minute asbestosis body. At 16 and 20 months no gross response was visible on the tissue section but microscopically peribronchiolar foci of inflammatory cells could be seen. At 24 months there was still no change large enough to be seen with a hand lens although microscopic examination revealed cellular accumulations about terminal bronchioles and many more asbestosis bodies, chiefly within cells.

Chemical analyses of the lungs (Table 13) reveal that in spite of the limited tissue reaction considerable dust had been retained in the lung.