the second year, 48 million; for the third year, 39 million; and for the fourth year, 43 million. Examination of the impinger samples with dark field illumination disclosed that many fine particles less than one micron in size accompanied the larger particles and dark field counts were, on the average, about 5 or 6 times larger than the light field counts.

62. The size-frequency of atmospheric samples of the long-fiber asbestos dust and of the ball-milled dust is shown in Table 16. Both samples were collected with the electrostatic precipitator. It will be noted that there was far more fibrous material in the long-fiber dust.

63. Reaction in Animals to Inhaled Long-Fiber Asbestos Dust. Guinea pigs, cats, rats and mice were employed in the inhalation experiment with long-fiber asbestos. Results of the experiment, summarized in Table 17, are described in greater detail below.

64. Guinea Pigs. The experiment was started with 100 guinea pigs. After exposure had been carried on for a year, a severe epidemic of pneumonia arose in the dust room and about one-third of the animals died or were killed. To replace them, 38 more guinea pigs were added to the surviving group in the dust room.

65. Rate and Type of Reaction. Histological examination revealed grossly visible lesions in the lungs after 8 months of exposure to dust, consisting of cellular infiltration about the terminal bronchioles. At 11 months, there were adenomatoid changes in the air spaces and by the 16th month a definite fibrosis was present in these areas in half the animals. The fibrous lesion could be seen macroscopically at 20 months. From this time on the reaction increased in extent and in the amount of collagen and