March 13, 1943

Dr. Ludwig Hektoen, Chairman
Committee on Cancer Research
National Cancer Institute
Bethesda, Maryland

Dear Dr. Hektoen:

In analyzing the results of a recently completed inhalation experiment on asbestosis, I was startled to discover that a small group of 11 white mice that had been inhaling asbestos dust from 13 to 24 months showed an excessive incidence (81.8%) of pulmonary cancer. This experience was quite at variance with the results in all our previous long-term dust exposures which were summarized and published by Vorwald and Lorr in the American Journal of Pathology, January 1938. I would have attached little significance to this recent finding because of the small number of animals involved, but for the fact that the literature now contains some 10 reports of pulmonary cancer in cases of human asbestosis. Even these I have heretofore attributed to selection of materials as we have found no cases of pulmonary tumor in surveys of employed asbestos workers. However, Gloyne, Merewether and other English observers contend that asbestos has a specific carcinogenic action on the lungs. The question is of considerable importance in industrial medicine because of the associated compensation aspects and from a scientific view point, it interests me a great deal.

In view of this recent finding I have reanalyzed the results of a large number of dust inhalation experiments that we have carried on during the past 25 years. The incidence of pulmonary tumors is above in the appended table. It would appear that, except in mice, tumors have been generally uncommon in the strains of different species that we had used. Guinea pigs have shown occasional adenomas of the lung whose incidence is not influenced by dust exposures or by the type of dust involved. However, in white mice that survived for 13 or more months and in our dust rooms, various forms of lung tumors were much more frequent. The average incidents of such tumors in a group of 143 mice exposed to 4 different quartz-containing dusts was 19.8% but this appears small in contrast to this incidence of 81.8% in the asbestos mice. In 51 younger mice that died or were killed after exposures of 10 or 11 months there was only one instance of pulmonary tumor. Therefore, either age or
of dust exposure must be important.

