Second, with the mineral brucite, which is not a silicate but is a fibrous form of magnesium hydroxide, a characteristic fibrosis like that produced by the asbestos minerals was obtained (fig. 22). Since the brucite used contained only 0.90 per cent silica, as an impurity, it is obvious that a siliceous component is not an essential factor in the development of asbestosis.

Third, no fibrosis resulted from the injection of glass wool fibers (fig. 23), even though glass wool resembles asbestos in many ways. However, there are fundamental differences. A glass wool fiber 3 microns in diameter is a solid rod, and, in short lengths, is fairly rigid, while an asbestos fiber of the same diameter is a bundle of extremely fine filaments which impart to the fiber a high degree of flexibility. It would seem that this structure and the associated flexibility are important factors governing the capacity of a mineral to produce peribronchiolar fibrosis. Experimental studies concerning this observation will be reported in a separate publication.

Comparison of Long-fiber and Short-fiber Dusts. With quartz dust it has been demonstrated that the smaller the particles, the more intense is the tissue reaction, and that there is little reaction to particles larger than 3 microns in diameter. In the case of asbestos, however, the reverse is true and apparently only long fibers have any specific effect, as was suggested by the inhalation experiments. This is confirmed by the data of table 15, in which a series of tests with fibrous minerals is reported. When the injected dust consisted of fibers 20 to 60 microns long, all the fibrous minerals tested, except anthophyllite, as noted in