

ASBESTOS EXPOSURE IN THE U.S. TEXTILE INDUSTRY
- 1930 TO DATE -

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I have been asked today to present a paper on the differences in asbestos exposure in several textile factories in various parts of the United States since 1930, and the clinical importance of the improvements in industrial hygiene which have been implemented. The term "asbestos" covers all forms of mineral fibrous crystals. When various forms of asbestos are fiberized, the resultant fibers differ physically and chemically. The three types of asbestos which are commercially important are chrysotile (white), crocidolite (blue), and amosite (gray). Anthophyllite is reportedly the first asbestos used by man, when it was applied as a reinforcement for earthenware pots 6,000 years ago in Finland. Chrysotile is used predominantly in U.S. Asbestos Textile factories. In our factory in North Charleston, South Carolina, for example, we have eliminated crocidolite altogether. Although use of asbestos goes back 6,000 years, the history of its use in this country spans little more than 60 years. Murray¹ reported in 1907 the case of an asbestos worker who had died of "typical pulmonary fibrosis", and this biological effect of asbestos, i.e., asbestosis, is generally well known.

The soft pliable nature of chrysotile fibers makes them ideal for textile weaving applications. Asbestos has many uses, such as brake linings, tiles, flooring compound, fireproofing (even in Apollo capsules). Subsequent to reports of the fibrogenic effects of asbestos fiber, cases were reported of bronchogenic cancer in an asbestotic worker; the first such case came from Dr. Kenneth Lynch², on one of our own employees in 1935. More recently has come the discovery of an association between non-occupational asbestos exposure and long delayed pleural and peritoneal cancer, by Wagner³, but the relationship is anything but clean-cut as pointed out by Sluis-Cremer⁴. Finally, Thomson's⁵ discovery of "asbestos bodies" in a significant percent of the lungs of the general population in South Africa and Miami, Florida, created much concern which has been considerably reduced by the work of Industrial Hygiene Foundation's Dr. Paul Gross and others on "Ferruginous Bodies" and their non-specificity.^{6, 7}

By way of historical background, in the 1920's there were several textile plants that had very crude systems for the removal of dust. Dust was often exhausted straight through the roof into the atmosphere, a cyclone type of elimination.

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