

CHAPTER XII

The Pulmonary Dust Diseases*

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I. Introduction

The industrial hygienist and the industrial physician are concerned with dust because of its almost constant dispersion in air, where it may be inhaled and in some instances cause disease. This suspension of finely divided particles in the air may not ordinarily attract attention in rural areas but the smokiness of large cities is immediately apparent. Clean country air may contain as much as 0.2 mg. dust per cubic meter of air, whereas the average amount in city air during the winter months is approximately 0.5 mg. per cubic meter of air.¹ Thus, the cloud of dust that arises from a stonecutter's chisel is an excessive amount superimposed on that which is present in the already dust-laden air.

In addition to the medical problems, the legal entanglements which may revolve around dustiness are often of sufficient complexity that months of careful study are required to determine or fix responsibilities. In cities where general industrial smoke contamination is a perennial problem, individual firms may be selected each year to bear the brunt of civic ire, and each year certain luckless corporations are forced to defend themselves in civil suits that are based almost entirely upon claims having no factual evidence for support. Medical-legal situations may be even more complex than the nonmedical problems and are complicated by numerous intangible factors. Not only does the exact nature of the disease and its relation to dust require proof, but the actual source of exposure must be determined so that a nondusty industry will not be held responsible for dust disease that may have resulted from exposure many years prior to the onset of the disease.

This chapter is written as an attempt to bring together facts necessary for a general understanding of dust and dust diseases. The presentation in the first portion is somewhat general so that the contents can be readily grasped by physicians

* Revision of Chapter 15, "Dust and Its Role in the Causation of Occupational Disease," by Edward E. Dart, M.D., in first edition.

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¹ J. M. DallaValle, *Micromeritics: The Technology of Fine Particles*. Pitman, New York, 1943.