

from defective burning of coal in furnaces, were responsible for the excessive incidence of cancer among persons exposed to this substance for occupational or general environmental reasons (workers in aniline dye plants, paraffin factories, gas and pitch plants, breweries, metallurgical factories, etc.). The local crowding of cancer deaths in valleys, gulleys, or in such parts of the towns where uneven roof lines produced pockets in which the sulfur dioxide fumes could accumulate, was attributed by Green to this cause. From a study of three different parts of Manhattan with regard to their relative cancer death rates and environmental factors, Meyers reached the conclusion that the portions exempted or less affected by smoke, fumes, and gases had a lower cancer death rate than those in which these pollutions of the air were present. As Meyers could not trace the differences found to factors such as age, sex allocation, etc., environmental conditions of the type suggested by Green were considered to be responsible for the excessive cancer mortality in the polluted regions.

A similar conception was advanced by Stephens, who was inclined, however, to blame the inhalation of carbon monoxide, of occupational or environmental origin, for the excessive incidence of cancer in certain professions. Analyzing the cancer deaths recorded in the Registrar's General Decennial Supplement (1921), Stephens found the highest cancer mortality in occupations which he considered excessively exposed to inhalation of carbon monoxide (waiters, cutlery grinders, tin and copper miners, cellarmen, cotton spinners, hat formers, gas stokers, puddlers, and china ovenmen), while low cancer death rates were listed for occupations having little contact with this gas (ministers, clergy, bank officials, machine compositors, leather goods makers, stone miners, etc.).

These theories dealing with the nature of the various environmental agents and conditions allegedly incriminated in the causation of occupational and environmental cancer are mentioned not because they are considered as valuable and important, but as excellent illustrations of the confusion and uncertainty existing in the field of statistical cancer research. It appears to be very likely that statisticians may be able to establish many more statistically significant relationships between etiologically unrelated items, one of which being cancer incidence or etiology.

According to the existing statistical information, cancer contributes relatively little (0.9 per cent per thousand industrial disabilities per year) to the annual volume of chronic disability, owing to its low incidence. The average amount of disability per case for this disease, however, is relatively high and ranks on this basis in importance with the cardiovascular-renal diseases, nervous disorders, etc., as an important cause of industrial disability (Perott and Holland).