

usually seen at postmortem examination. The peripheral cancers in this series may, therefore, represent a stage prior to hilar involvement. Two tumors were pleural in distribution, 1 disseminating and 1 not. Both were adenocarcinomas, the former having spindle-cell areas.

Attention must also be drawn to the 4 peritoneal cancers, 1 in a male and 3 in females. This is a very high number in such a small series of cases. All these tumors were anaplastic carcinomas, the primary site not being found in any organ. The possibility of an origin from the sequestered bronchial epithelium present in the diaphragmatic areas of hyaloserousitis is suggested, but without any clear proof.

No adequate comparable postmortem material from persons working under factory conditions and not exposed to asbestos dust is available with which to compare the incidence of lung cancer in asbestos workers. The incidence here cited is very high and by comparison with the incidence in iron-ore miners must be highly significant. The occurrence of occupational lung cancer in the exposed female is noteworthy.

In connection with this particular form of industrial hazard, it must be emphasized that since the introduction of regulations for the control of asbestos dust in 1931, the amount of exposure of the workers to dust has been enormously reduced and we shall therefore expect to see a disappearance of those severe degrees of pulmonary fibrosis that have been described heretofore and possibly a disappearance of associated cancer. All the present cases that had asbestosis and cancer had been exposed prior to 1931.

2. Cancer of the Lung in Iron-Ore Miners

One of the authors (JSF) has had a unique opportunity to study this disease (Stewart and Faulds, 1934).¹⁸ He has personally conducted postmortem examinations on 192 Cumberland hematite miners during the last 20 years and in addition has performed postmortem examinations on 2378 Cumberland males above the age of 20 years, unselected in regard to cancer or lung disease. The difference in incidence of lung cancer in these 2 groups is statistically significant (Table 5). The age of onset is not significantly delayed, most of the miners having entered the mines under the age of 30 years. All the miners' lungs contained much silica and iron at death, but there was no significant difference in the content of either mineral in the lungs with and without cancer. There was, however, an interesting difference in the degree of fibrosis (Table 6) and this has greater significance when a similar occurrence in relation to asbestosis is remembered. All the tumors were classified as oat-cell or squamous cancers.

TABLE 5
CANCER OF THE LUNG IN IRON-ORE MINERS

	Number	Lung Cancers	Percentage Incidence
Iron-ore miners	192	17	8.85 ± 2
Cumberland males over 20 years	2378	44	1.85 ± 2

MINERAL

Bronchial carcinoma
Fibrosis alone
Fibrosis and tumor
No fibrosis and tumor

Figures in parentheses are available.

The common cause of lung cancer is suggested to be silicic acid, a potent process which causes a relationship between the lung is exposed to asbestos or chemical agents of the nature of the

The value of cancer in the 2 aspects, any population cancer. More data. In regard to involved in latter, the textile workers described.

1. BONSER, cause
2. BONSER, proper amine