

|                          |                         |                     |
|--------------------------|-------------------------|---------------------|
| <i>Gas Works:</i>        | 55 cases of epithelioma | 21 deaths 1920-1927 |
|                          | 75                      | 38 1933-1937        |
| <i>Other Industries:</i> | 46 cases of epithelioma | 6 deaths 1920-1927  |
|                          | 35                      | 7 1933-1937         |

Including the cases which occurred during the year 1929, the percentage of fatalities from tar and pitch cancer among English workers affected by this disease presents itself as follows: pitch cancer: 336 cases with 11 deaths; tar cancer: 602 cases with 112 deaths.

This compilation brings out the interesting fact that tar cancer offers a much worse prognosis than pitch epithelioma. At the present time a plausible explanation for this phenomenon cannot be offered. The possibility exists that the physico-chemical properties of tar enable a better and deeper penetration of the carcinogenic agent into the cellular layers of the skin, than those of pitch, occurring mainly in the form of dust. As this observation is based entirely on English data, consideration must be given to the fact that tar apparently produces scrotal malignancy more often among English workers (Bridge and Henry) than among continental workers. This fact may account in part for the bad prognosis of tar cancer in England.

#### VIII. AGE

It has been maintained by various observers that advanced age represents an intrinsic, predisposing factor for development of cancer of the skin in individuals exposed to tar and pitch (Teutschlaender). They have, therefore, warned, against the employment of such individuals in tar and pitch operations. Other investigators have maintained that duration of exposure rather than absolute age, that is, a hypothetical tissue senility, plays the chief role in the production of tar and pitch malignancy (Kennaway). The following tables illustrate the age distribution of pitch papillomas, pitch cancer, and tar cancer as it is presented by a survey of data available.

#### AGE DISTRIBUTION OF PITCH WARTS (Downing)

| Years | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | Total |
|-------|-------|-------|-------|-------|-------|-------|
| Cases | 4     | 9     | 24    | 16    | 8     | 61    |

#### AGE DISTRIBUTION OF PITCH AND TAR EPITHELIOMAS

| Years       | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80 and more | Total |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------------|-------|
| Pitch Cases | 1     | 5     | 14    | 34    | 38    | 20    | 3     |             | 115   |
| Tar Cases   |       |       | 6     | 14    | 15    | 32    | 12    | 1           | 80    |