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COVER LEGEND

Signal contributions to cancer research and prevention of cancer have been made by epidemiologists and statisticians. Eminent among them have been two British colleagues, Austin Bradford Hill and Richard Doll. They collaborated in the pioneer studies on the relationship of smoking to lung cancer (Smoking and Carcinoma of the Lung, *Brit. Med. J.*, 2: 739, 1950; The Mortality of Doctors in Relation to their Smoking Habits, *Brit. Med. J.*, 1: 1451, 1954), which, with the retrospective study of Wynder and Graham and the prospective studies of Hammond and Horn and of Dorn in the United States, established the carcinogenic and other health hazards of tobacco smoking. It is noteworthy that the findings of all three studies were remarkably similar, presenting no conflicting evidence. The most important findings were that the total death rate from all causes combined is far higher among cigarette smokers than among pipe and cigar smokers and among nonsmokers, that the death rate increases in direct relation to the amount of cigarette smoking, and that the incidence of carcinoma of the lung would be reduced by 80 or 90% in the absence of smoking. Subsequent studies by Hill and Doll (The Study of Aetiology of Carcinoma of the Lung, *Brit. Med. J.*, 2: 1271, 1952; Mortality in Relation to Smoking: Observations on British Doctors, *Brit. Med. J.*, 2: 1071, 1956, and 1: 1399, 1964) revealed that the agent in tobacco smoke might act as a cocarcinogen in the presence of another element in the environment, provided some additional evidence that lung carcinoma is more common in urban areas than in rural areas, that the greater mortality in cigarette smokers over pipe smokers is a function of *method* of smoking irrespective of amount, and that deaths from cancer in sites other than the lung

and upper respiratory and digestive tracts reveal little association between mortality and smoking.

Sir Austin Bradford Hill (b. 1897, London) is Emeritus Professor of Medical Statistics at the University of London and currently a member of the British Committee on the Safety of Medicines and a member of the International Statistical Institute. He has written many papers on clinical trials of drugs, smoking and lung cancer, and experimental methods in preventative medicine, which are included in his book *Statistical Methods in Clinical and Preventive Medicine* (E & S Livingstone, Edinburgh, 1963). In his *Principles of Medical Statistics*, first published in 1943 (The Lancet, London, 9th edition, 1971), he explains how investigations into forms of treatment can be planned and how figures derived from them can be analyzed in order to yield fruitful results.

William Richard Doll (b. 1912, London) has since 1969 held the position of Regius Professor of Medicine at the University of Oxford. Since 1936 he has written various articles on the etiology of cancer, many of which are summarized in his brilliant Carling Lectures, *Prevention of Cancer, Pointers from Epidemiology* (Nuffield Provincial Hospital Trust, London, 1967). In this book he indicates way in which epidemiological studies can contribute to the prevention of cancer, the most intensively used method being that of correlating differences in cancer incidence in various communities with differences in the prevalence of a potential etiological factor.

We are indebted to Barratt's Photo Press, Ltd., London, England, for the portrait of Doll and permission to reproduce it, and to Hill for the portrait of himself. Doll appears at *lower right*; Hill, *upper left*.

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