epidemiology was only concerned with infectious disease but that wasn't the only reason for its neglect. A preference for laboratory research and animal experiments diverted attention from epidemiology and with it a true understanding of major diseases like cancer.

Before the first World War, population studies had identified several causes of cancer:[19] it was found, for instance, that pipe smokers were prone to lip cancer; that workers in the aniline dye industry contracted bladder cancer; and that radiologists often developed skin cancer. It was also known that combustion products of coal (soot and tar) could cause the disease, an observation dating back to 1775 when the English surgeon Potts identified soot as a carcinogen in chimney sweeps. Attempts to reproduce Pott's findings by experimenting on animals repeatedly failed[20] but finally, in 1918, Japanese researchers produced cancer on a rabbit's ear by repeatedly painting it with tar, a discovery that captured the imagination of the scientific world and changed the course of cancer research. According to British epidemiologist Sir Richard Doll, human observational data was now commonly dismissed because it was confidently assumed that laboratory experiments held the key to success.[19] Crucial epidemiological studies like those of Percy Stocks at London University, who reported in 1933 that people consuming larger amounts of fruit and vegetables were less likely to develop cancer,[21] received little attention.[19] Today we know that Stocks was right: recent epidemiological research has shown that a vegetarian diet, or at least one low in meat and rich in fruit and vegetables, can substantially reduce the risk of cancer.[22]

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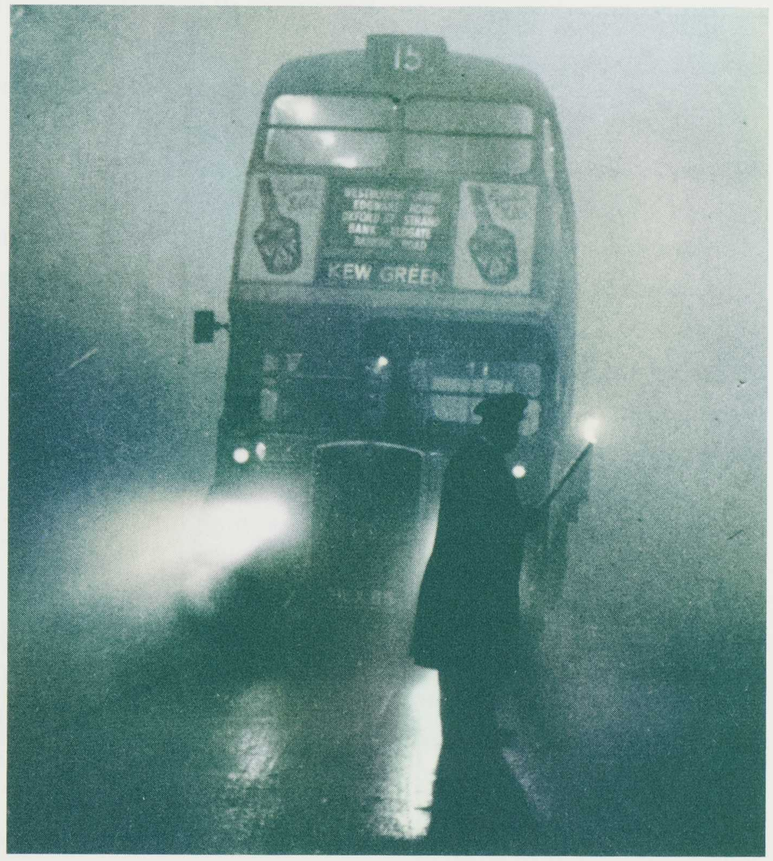
▶ *143 years after soot had been identified as a human carcinogen by studying the diseases of chimney sweeps, laboratory researchers finally reproduced the findings by repeatedly painting a rabbit's ear with tar.*

The absence of epidemiological data allowed mistaken theories based on animal research to flourish. It also misdirected vast resources into areas irrelevant to most human cancers. Although we now know that only about 5% of US cancers are associated with viral infection,[23] scientists once confidently believed that most, if not all, cases were caused by viruses, a view derived from experiments on animals where it is easy to transmit the disease in this way.[24] It was even argued that because breast cancer in mice can be produced by a virus, women should not nurse their babies in case a corresponding infection is transmitted in the mother's milk![25] With the origin of breast cancer differing even between rats and mice, it is hard to see how such views could ever by taken seriously.

▶ *Epidemiological studies of the notorious London Smog of 1952, connecting ill-health with pollution, led to the Clean Air Act of 1956.*



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Fortunately, following the second World War, interest in the epidemiology of non-infectious disease was re-awakened. The most striking discovery connected smoking with lung cancer. By 1954, when Richard Doll and Bradford Hill published their famous investigation into the