

RICHARD PETO CELEBRATES RICHARD DOLL,
WHO MADE SENSE OF THE CAUSES OF CANCER

Nature, nurture and luck

IN 1950 Richard Doll and Bradford Hill showed that smoking was 'a cause, and an important cause' of the rapidly increasing epidemic of lung cancer in the UK. The following year they asked all the doctors in Britain what they smoked: 40,000 replied, and Richard Doll followed them for the next 50 years, showing that half of all smokers are eventually killed by their habit, and that stopping smoking is remarkably effective at reducing the risk of dying prematurely.

Although best known for his work on tobacco, he did an extraordinary range of other studies, quite apart from helping to get clinical medical education established in Oxford and founding Green College. Sixty years ago cancer was generally thought of as a natural consequence of old age, like grey hair, wrinkled skin or conservative opinions. Richard was a key figure in bringing together evidence from cancer registries in five continents showing that each type of cancer that is common in one population is rare in another. He argued that these differences were not chiefly genetic, so wherever a particular type of cancer was common, it didn't have to be. He showed, more clearly than anyone, that cancer arose from a combination of nature, nurture and luck, but that man-made environmental pollutants were not necessarily the main culprits. When he and I set about quantifying the causes of cancer in countries such as the UK and US, we found that the hazards of smoking were more than twice the sum of every other reliably known cancer hazard. A moderate reduction in a big cause saves more lives than a big reduction in a small one.

He also studied stomach ulcers, radon in houses, therapeutic X-irradiation and leukaemia, occupational exposure to asbestos, and the various minor hazards of the contraceptive pill. Apart from tobacco, his main interests recently were in the causes of breast cancer and leukaemia, and in trials of treatments for breast cancer and vascular disease. He had helped Bradford Hill to establish randomised trials half a century earlier, and was delighted in recent decades by the clarity with which large-scale randomised evidence could answer important questions.



Richard Doll at age 90 at work with Richard Peto

In old age his career had an extraordinary Indian summer, with a steady flow of international lectures and major scientific papers long after most people would have retired. Since publishing the 50-year results of the doctors' study last year, he climbed a jungle tree in Australia, rode a camel in the Arabian desert, flew in the co-pilot's seat in the Orkneys and gave lectures in seven different countries in five continents. He came to work every day until our unit moved into the spacious new Richard Doll Building in June, then died after a short illness. Worldwide, his work has probably prevented millions of premature deaths already, and it may well prevent tens of millions more.

For the past 30 of Richard Doll's 60 years of research I've been one of his closest collaborators, and at some level I'll still be collaborating with him for the rest of my life, just as Richard himself was still collaborating with Bradford Hill long after Hill was gone. I don't know what mixture of nature and nurture produced him, but I'm lucky that it did.

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Sir Richard Doll (1912–2005), who linked smoking with lung cancer and many other fatal diseases, died on 24 July aged 92. He was Regius Professor of Medicine (1969–79) and founding Warden of Green College (1979–83), then did another 22 years of epidemiology.

'Death in old age is inevitable, but death before old age is not. In previous centuries 70 years used to be regarded as humanity's allotted span of life, and only about one in five lived to such an age. Nowadays, however, for non-smokers in Western countries, the situation is reversed: only about one in five will die before 70, and the non-smoker death rates are still decreasing, offering the promise, at least in developed countries, of a world where death before 70 is uncommon. For this promise to be properly realised, ways must be found to limit the vast damage that is now being done by tobacco and to bring home, not only to the many millions of people in developed countries but also the far larger populations elsewhere, the extent to which those who continue to smoke are shortening their expectation of life by so doing.'

*From the Foreword by Richard Doll to
Mortality from Smoking in Developed
Countries 1950–2000 by Richard Peto
et al. (OUP 1994)*